

S
639.32
016
USbLpp
1993

Knowles, Craig J
A bibliography
of literature and
papers pertaining
to presettlement
wildlife and
habitat of Montana



A Bibliography of Literature and Papers Pertaining to Pre-Settlement Wildlife and Habitat of Montana and Adjacent Areas

STATE DOCUMENTS COLLECTION

JUL 11 1993

MONTANA STATE LIBRARY
1515 E. 6th AVE.
HELENA, MONTANA 59620



PLEASE RETURN

OCT 27 1993

FEB 9 1994

APR 27 1994

MAR 26 1994

APR 24 2003

MONTANA STATE LIBRARY

S 639.32016 U8bLpp 1993 c.1 Knowles
A bibliography of literature and papers



3 0864 00084473 1

A BIBLIOGRAPHY OF LITERATURE AND PAPERS
PERTAINING TO PRESETTLEMENT WILDLIFE
AND HABITAT OF MONTANA AND ADJACENT AREAS

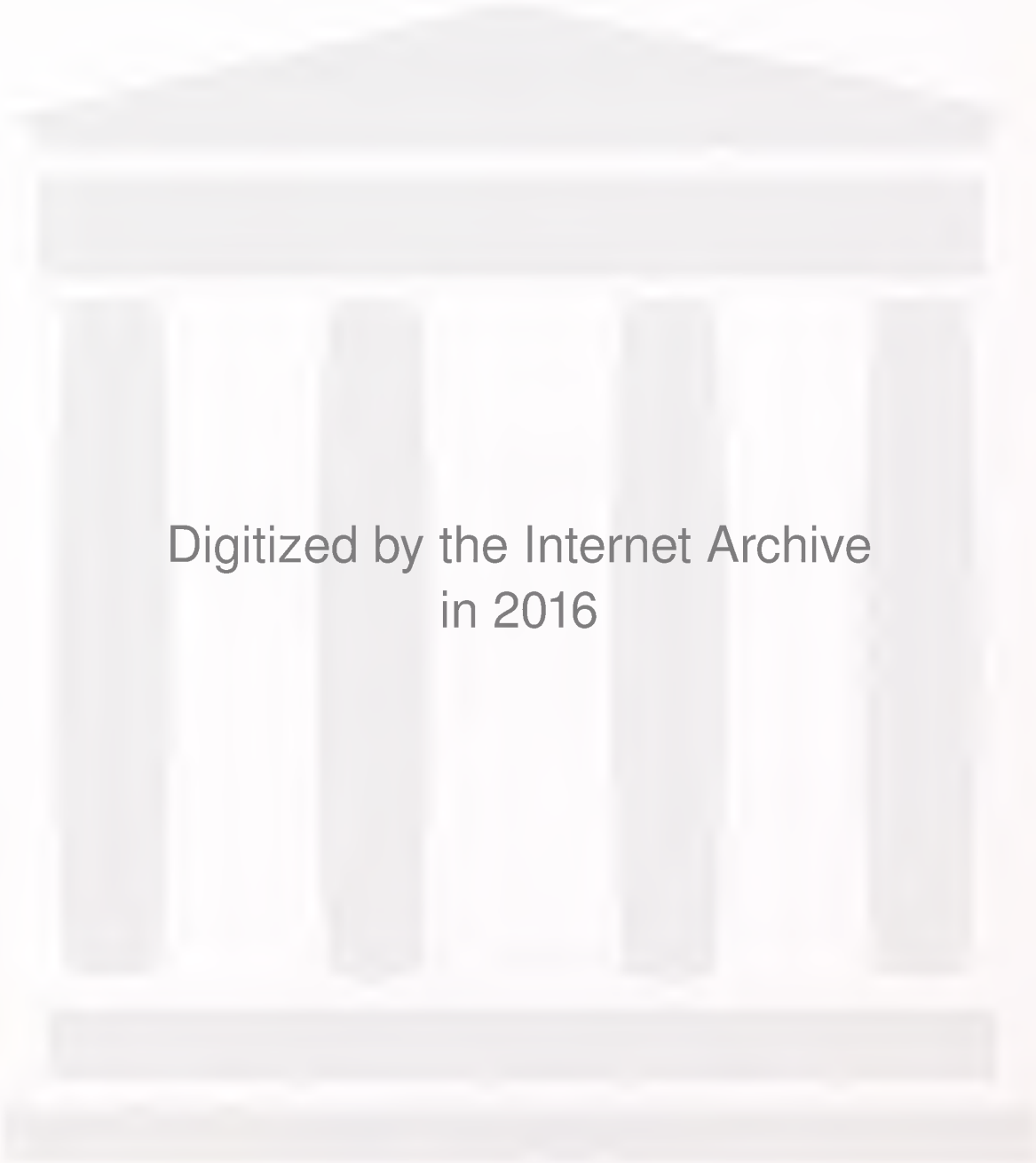
prepared by:

Craig J. and Pamela R. Knowles
FaunaWest Wildlife Consultants
P.O. Box 113
Boulder, MT 59632

prepared for:

U.S.D.A. Forest Service
200 E. Broadway, P.O. Box 7669
Missoula, MT 59807

12 January 1993



Digitized by the Internet Archive
in 2016

<https://archive.org/details/bibliographyofli1993know>

TABLE OF CONTENTS

LIST OF TABLES	.	.	.	.	.	.	.	.	ii
LIST OF FIGURES	.	.	.	.	.	.	.	.	ii
PREFACE	.	.	.	.	.	.	.	.	iv
ACKNOWLEDGMENTS	.	.	.	.	.	.	.	.	vi

SECTION ONE:

AN ANNOTATION OF EXPEDITIONS AND INDIVIDUALS
RECORDING NATURAL HISTORY NOTES IN AND NEAR MONTANA
DURING THE 19TH CENTURY

SECTION TWO:

TABULAR SUMMARY OF EXPLORERS AND EXPEDITIONS IN AND
NEAR MONTANA DURING THE 19TH CENTURY

SECTION THREE:

LIST OF EARLY MONTANA NATURALISTS

SECTION FOUR:

A LISTING OF BOOKS, PAPERS, AND DOCUMENTS
PERTAINING TO PRESETTLEMENT HABITAT AND WILDLIFE
OF MONTANA AND ADJACENT LANDS

LIST OF TABLES

Table 1.	A summary of explorers or expeditions entering or approaching (denoted by *) Montana during the 1800s with at least some recorded natural history information.	2-1
Table 2.	Chart showing major explorers or expeditions entering or approaching (denoted by *) Montana and the drainages traversed during their journeys	2-4
Table 3.	List of forts and trading posts in Montana with date established and approximate location.	2-9

LIST OF FIGURES

Figure. 1.	Map of Montana showing the routes taken by the Lewis and Clark Expedition during 1805 and 1806.	1-4
Figure. 2.	Map of Montana showing the route taken by LaRocque during 1805.	1-4
Figure. 3.	Map of Montana showing the routes taken by David Thompson from 1808 to 1812.	1-10
Figure. 4.	Map of Montana showing the route taken by Prince Maximilian during 1833.	1-10
Figure. 5.	Map of Montana showing the route taken by John Work during 1831 and 1832.	1-13
Figure. 6.	Map of Montana showing the route taken by Nathaniel Wyeth in 1833.	1-13
Figure. 7.	Map of Montana showing the routes taken by Osborne Russell from 1833-1843.	1-16
Figure. 8.	Map of Montana showing the routes taken by Father DeSmet from 1840-1870.	1-16
Figure. 9.	Map of Montana showing the route taken by Charles Geyer during 1843.	1-19
Figure. 10.	Map of Montana showing the route taken by Joseph Burke during 1845.	1-19

Figure. 11.	Map of Montana showing the routes taken by John Palliser during 1847, 1848, and 1857-1860.	1-22
Figure. 12.	Map of Montana showing the route taken by Sir George Gore during 1855 and 1856. .	1-22
Figure. 13.	Map of Montana showing the routes taken by the Pacific Railroad Surveys during 1853 and 1854.	1-26
Figure. 14.	Map of Montana showing the route taken by Ferdinand Hayden during 1854 and 1855. .	1-26
Figure. 15.	Map of Montana showing the route taken by the Warren Expedition during 1856. . .	1-28
Figure. 16.	Map of Montana showing the routes taken by the Reynolds Expedition during 1859 and 1860	1-28
Figure. 17.	Map of Montana showing the routes taken by the Northwest Boundary Survey from 1857 to 1861.	1-32
Figure. 18.	Map of Montana showing the route taken by the Blake Expedition during 1860. . .	1-32
Figure. 19.	Map of Montana showing the route taken by the Yellowstone Expedition during 1863. .	1-35
Figure. 20.	Map of Montana showing the routes taken by the Powder River Campaigns and the Sawyers Wagon Road Expedition during 1865. . .	1-35
Figure. 21.	Map of Montana showing the route taken by the Ludlow-Grinnell Expedition during 1875.	1-42
Figure. 22.	Map of Montana showing the routes taken by the Northern Pacific Railroad Surveys from 1871-1873.	1-42
Figure. 23.	Map of Montana showing the route taken by the Northern Boundary Commission Survey during 1874.	1-44

Bibliography is a necessary nuisance and a horrible drudgery that no mere drudge could perform. It takes a sort of inspired idiot to be a good bibliographer and his inspiration is as dangerous a gift as the appetite of the gambler or dipsomaniac - it grows with what it feeds upon and finally possesses its victim like any other invincible vice.
Elliott Coues 1892.

PREFACE

This bibliography of literature and papers, pertaining to pre-settlement habitat, wildlife (including fish), and changing landscapes of Montana and adjacent areas, is divided into four sections. The first section contains a brief summary of the major expeditions or individuals to traverse Montana during the 1800s. After each summary, references are listed that provide information on the expedition and/or individual. Some of these references are original journals or a later synthesis of an original work. Frequently, these later works are easier to obtain, include useful footnotes, and/or are an abridgement of the original document in a more readable form. We have also included maps of the approximate routes taken by many of the expeditions for a quick graphic display of the areas traversed.

The second section is a tabular summary of major explorers and expeditions. It is intended to provide for cross referencing explorers or expeditions with dates of surveys, areas surveyed, and quality of natural history notes. We have also included a table alphabetically listing 19th Century forts and trading posts and their approximate location as an aid when reading original journal notes.

The third section is a roster of individuals who recorded natural history observations and/or made plant and animal collections in Montana during the 1800s or early 1900s. We relied heavily upon Ewan (1950) and Ewan and Ewan (1981) to assemble this roster.

The fourth section consists of an alphabetical listing of books, papers, and documents we found pertinent to pre-settlement habitat and wildlife in Montana and adjacent areas. This listing includes many additional references not found in Section One.

The impact of exploration and settlement in Montana by people of European descent occurred in distinct phases, with the first phase actually preceding their arrival in the west. The earliest reports of Indians in Montana showed that they were well supplied with horses and firearms. Notes recorded around 1740, by la Verendrye, showed that horses were already in the Northern Plains (Burpee 1927) and in 1805, LaRocque noted over 200 guns in the Crow camp with which he traveled (Hazlitt 1934). Although many of Montana's Indian tribes were nomadic, with the aid of horse and gun they were capable of influencing wildlife abundance and distribution - a fact noted by many journalists (note

especially Work's journal - Lewis and Phillips (1923) and Maximilian's narrative - Thomas and Ronnefeldt (1982)). In addition, they probably altered habitat through fire; there are numerous accounts of Indians using wildfires as methods for communication, warfare, and driving bison.

The first two decades of the 1800s saw brief penetrations of white men into the Montana wilderness to assess its potential for the fur trade. Although some fur trading occurred with the Indians, it wasn't until the 1820s and 1830s that large numbers of trappers (estimated 1,000 in Montana) and Indians were engaged in the fur trade. Following the decline in beaver in the late 1830s, bison skins became the primary commodity exported from Montana. During the 1840s and 1850s, Indians were the principal supplier of bison hides to the fur traders. It was also during this period that the American government first began a systematic reconnaissance of Montana.

The 1860s brought a new wave of white immigration seeking gold, bison hides, and land settlement. During the 1860s and 1870s, it is estimated that 5,000 hunters were on the Montana prairies shooting bison. During this period, there were railroad surveys, road surveys, military campaigns, and inventories of streams for gold and navigation potential. Conflicts between white settlers and Indians increased dramatically as bison numbers diminished and traditional Indian lands were taken over by settlers. Large ranches were already present in Montana by the early 1870s. The Northern Pacific Railroad Surveys, in the early 1880s, marked the last of the large expedition type general surveys in Montana. Around 1910, Montana's Federal land on the eastern prairies was opened up for homesteading, signifying the beginning of a new phase of development.

Although there were literally thousands of people living, working, and traveling through Montana during the 1800s, relatively few recorded their observations. Of those who did, natural history observations were usually not their primary objective. Frequently, the main goal was to map, trap furbearers, subdue Indians, sport hunt, or search for gold. Surviving journals are full of accounts of dealing with Indians, personality conflicts among coworkers, and the day's weather, but little attention was paid to wildlife even in a general sense. Even some of the professionally trained biologists often recorded surprisingly little. For example, the Garfield University expedition of 1889 had four people in Montana for nearly one month and produced only a short list of collected plants.

One aspect which most journals were very consistent in reporting was the quantity of grass available for transportation livestock and the amount of timber available for camps, boats, and construction. (Bison and grizzly bears also tended to attract the attention of many journalists.) On these points, it is possible to reconstruct trends over the years for a certain locality in the decline of bison and grizzly bears, or loss of timber due to steamboat traffic. In some cases, it is even possible to obtain a comparative view of grass condition between

two areas at the same time and establish the impact of bison on annual vegetative growth.

This bibliography is primarily a guide to people desiring to learn more of what wildlife and habitats might have been in Montana at the time of white exploration and settlement. Before pursuing serious research on this subject, we would recommend reading Wedel's (1975) paper on perspective of the historic observer in influencing their recording of observations. This paper compares Spanish explorers' notes on their first encounter with the eastern Colorado prairies to the observations of Stephen Long and Zebulon Pike. The Spanish view of the prairie was that it equaled the best of Spain and already was populated by a cattle (bison) more docile than their own and in far greater numbers. The American explorers, coming from eastern deciduous forests, labeled the Colorado prairies "the great American desert". This latter view definitely altered the settlement of the Great Plains.

In developing the annotations, we did not attempt to review all available written material on an expedition or individual. Instead, we read enough material to make an assessment of the subject (presented in the annotation) and to list papers, books, and documents which pertain to the expedition or individual. In some cases, we have limited the citations on secondary sources, such as for the Lewis and Clark Expedition, which seemed to have no end of commentators. The annotations are, for the most part, restricted to Montana expeditions and individuals, although we have listed a few important expeditions coming close to Montana. We have included the major expeditions to Yellowstone National Park because most of these originated in Montana and the Park contains the headwaters for three major Montana Rivers.

This bibliography is by no means a definitive work and should be considered as only a starting point from which to begin a serious investigation into presettlement habitat and wildlife of the region. We have listed some references even though we did not have the complete citation or could not locate the reference, in the hope that the lead might be useful to someone else. However, the major explorers and their works are listed here in chronological order and, hopefully, will provide a view of wildlife, habitat, and the changing landscapes of Montana's past.

ACKNOWLEDGMENTS

We thank Fred Samson (US Forest Service) for proposing this project and obtaining the necessary funding. This project would not have been possible without the assistance of numerous libraries, and we particularly thank Dave Walter and staff at the Montana Historical Society Library, Diana Vance and Cara Katzbeck at the Boulder Public Library, and the staff at the Montana State Library. Others providing assistance on this project included J. Canfield, A. Dood, R. Gumtow, K. Hamlin, M. Johnson, L. Marcum, C. Martinka, and S. Sheehan.

SECTION ONE

AN ANNOTATION OF EXPEDITIONS AND INDIVIDUALS
RECORDING NATURAL HISTORY NOTES
IN AND NEAR MONTANA DURING THE 19TH CENTURY

LeRaye/Pardo Expedition, 1802:

Charles LeRaye, a Canadian fur trader, left Canada in 1801 to begin trading on the Missouri River. In 1802, he joined a Canadian named Pardo, who was already trading in the area, on a trip which would take them into Montana. They ascended the Missouri River from the Arikara village in April 1802 in company with a small party of Gros Ventres. On 15 July, they reached the Yellowstone River and ascended this River to the mountains reaching a tributary of the Bighorn. They descended the Bighorn to its mouth and camped at this location from 11 October to March 1803. They then descended the Yellowstone River to the Missouri River and back down to the village of the Gros Ventre.

LeRaye, C. 1926. The journal of Charles LeRaye. South Dakota Historical Collections. IV, 150-180.

Nasatir, A.P. 1952. Before Lewis and Clark. Documents illustrating the history of Missouri 1785-1804. St. Louis, St. Louis Historical Documents Foundation. 375 pp.

Lewis and Clark Expedition, 1804-1806:

The Lewis and Clark expedition, headed by Meriwether Lewis and William Clark, was the first organized expedition to cross Montana. This expedition followed the Missouri River across Montana to its source on the Beaverhead River. They crossed Lemhi Pass, descended the Bitterroot River and then crossed Lolo Pass. On the return trip, the expedition split into two groups near Lolo. Clark took a similar route back to the Three Forks of the Missouri and crossed the mountains to the Yellowstone drainage and then descended the Yellowstone River to its confluence with the Missouri River. Lewis ascended the Blackfoot River and crossed Lewis and Clark Pass down to the Missouri River. Lewis briefly explored the Marias River before descending the Missouri River to meet Clark on the Yellowstone River. This was a scientific expedition with the purpose of general exploration and discovery. The natural history notes recorded on this expedition are outstanding. Figure 1 shows the approximate route taken.

Bakeless, J.E. 1947. Lewis and Clark: Partners in Discovery. Morrow, New York.

Burroughs, R.D. 1961. The natural history of the Lewis and Clark expedition. Michigan State Univ. Press. East Lansing. [Very good for natural history information.]

Coues, E. 1883. History of the expedition under the command of Lewis and Clark. Francis P. Harper, New York.

Devoto, B. ed. 1953. The journals of Lewis and Clark. Houghton Mifflin, Boston, MA.

- Eide, I.H. 1969. American Odyssey: The journey of Lewis and Clark. Rand McNally, Chicago, IL.
- Gass, P. 1807. Journal of the voyages and travels of the corps of discovery under the command of Capt. Lewis and Capt. Clark of the United States from the mouth of the River Missouri through the interior parts of North America to the Pacific Ocean during the years 1804, 1805, 1806. 3rd ed. 1811. Philadelphia, PA. [Sergeant Patrick Gass accompanied Lewis and Clark on their travels across the Louisiana Territory.]
- Link, L.W. 1964. The Lewis and Clark Expedition: From St. Louis, Missouri to Pacific Ocean and return, with particular reference to the Upper Missouri and Yellowstone Rivers. Cardwell, MT.
- Meehan, T. 1898. The plants of the Lewis and Clark Expedition across the continent, 1804-1806. Proc. Acad. Sci. Phila. Jan 1898:12-49
- Pursh, F. 1814. Flora americanae septentrionalis; or, A systematic arrangement and description of the plants of North America; containing, besides what have been described by preceding authors, many new and rare species collected during twelve years of travels and residence in that country. 2 vols. White, Cochrane & Co.
- Thwaites, R.G., ed. 1904. Original journals of the Lewis and Clark expedition, 1804-1806. Dodd, Mead & Co., New York.
- Thompson, L.S. 1985. Montana's Explorers: The pioneer naturalists. The Montana Magazine, Helena.
- Walcheck, K.C. 1969. Birds observed by Lewis and Clark in Montana, 1805-1806. Proceedings of the Montana Acad. of Sci. 29:13-29.
- Walcheck, K.C. 1976. Montana wildlife 170 years ago. Montana Outdoors 7(July-Aug.):15-30.

LaRocque Expedition, 1805:

Francois Antoine Larocque, a Canadian fur trader, persuaded Crow Indians trading at the Mandan village to take him, and 2 companions, to the Crow homeland along the Yellowstone River. Between 2 June and 17 October 1805, he traveled cross-country crossing the Little Missouri, Powder, Tongue, and Little Bighorn Rivers to reach the Bighorn River and Mountains. His return trip was down the Yellowstone River, crossing a divide to the Little Missouri River and then on to the Missouri River. The purpose of the trip was to asses the value of the region for fur trade.

LaRocque included natural history notes relating to bison and other wildlife, vegetation, and stream conditions in his journals. Although these natural history notes are not detailed, they provide an early glimpse of this area. Figure 2 shows the approximate route taken.

Brown, M.H. 1969. The plainsmen of the Yellowstone: A history of the Yellowstone Basin. Bison Books, Univ. of Nebraska Press, Lincoln.

Burpee, L.J., ed. 1910. The journal of Larocque from the Assiniboine to the Yellowstone, 1805. Publications of the Canadian Archives, Ottawa: No. 3, 17.

Hazlitt, R., ed. 1934. The journal of Francois Antoine Larocque from the Assiniboine River to the Yellowstone River - 1805. Univ. of Montana historical reprint no. 20, Missoula. 26 pp.

Thompson, L.S. 1985. Montana's Explorers: The pioneer naturalists. 1805-1864. The Montana Magazine, Helena.

Wilson P. Hunt, 1811.

Hunt was a fur trapper who crossed the southeastern corner of Montana traveling west from the Grand River in South Dakota to the Powder River in Wyoming. His expedition then travelled southwest through Wyoming and crossed the mountains into the Snake River drainage. His journal is contained in the following publications.

Irving, W. 1836. Astoria, Anecdotes of an enterprise beyond the Rocky Mountains. Carey, Lee, & Blanchard, Philadelphia.

Rollins, P.A. 1935. The discovery of the Oregon Trail. New York.

Thomas Nuttall, John Bradbury, Expedition, 1811:

Although this expedition did not come into Montana, it is included here because of its significance - two professional botanists were within one hundred miles of Montana and produced well documented accounts of the journey. This was a loosely organized expedition up the Missouri River to Fort Lisa (general vicinity of Fort Clark) in North Dakota. Nuttall and Bradbury, both botanists, traveled with Wilson Hunt up to the Grand River at which point Hunt's party headed west. Nuttall continued on a boat commanded by Manuel Lisa in the company of Henry Brackenridge while Bradbury went overland where they all met at the Mandan Villages in North Dakota. Bradbury proved to adapt well to the primitive life style of the region and recorded a

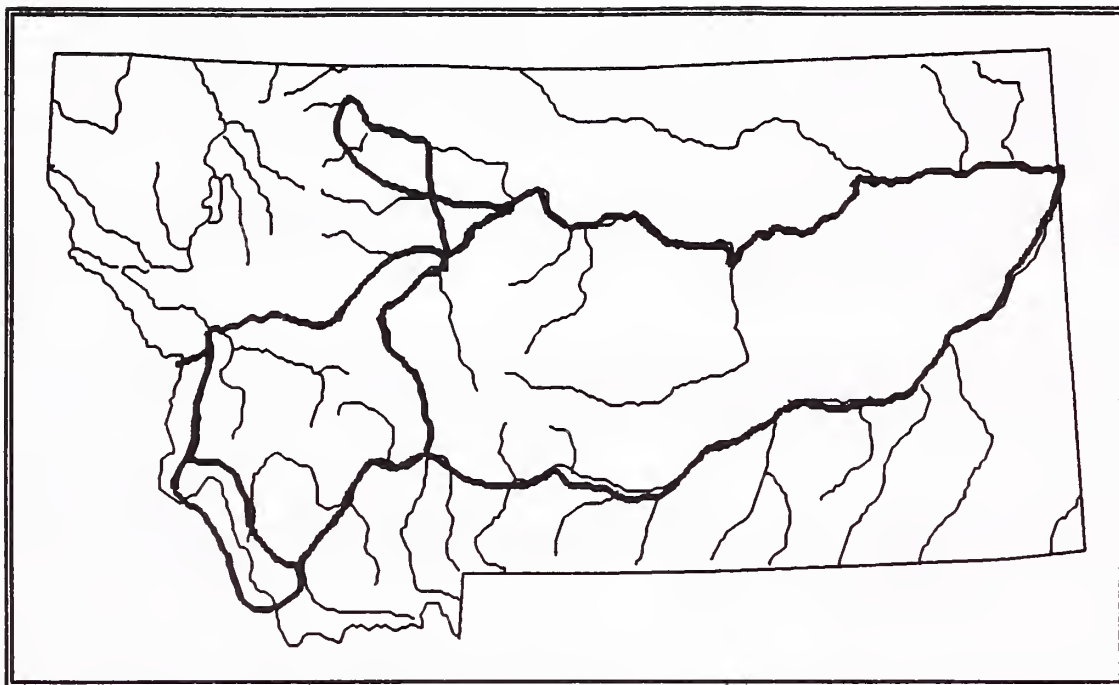


Figure 1. Map of Montana showing the routes taken by the Lewis and Clark Expedition during 1805 and 1806.

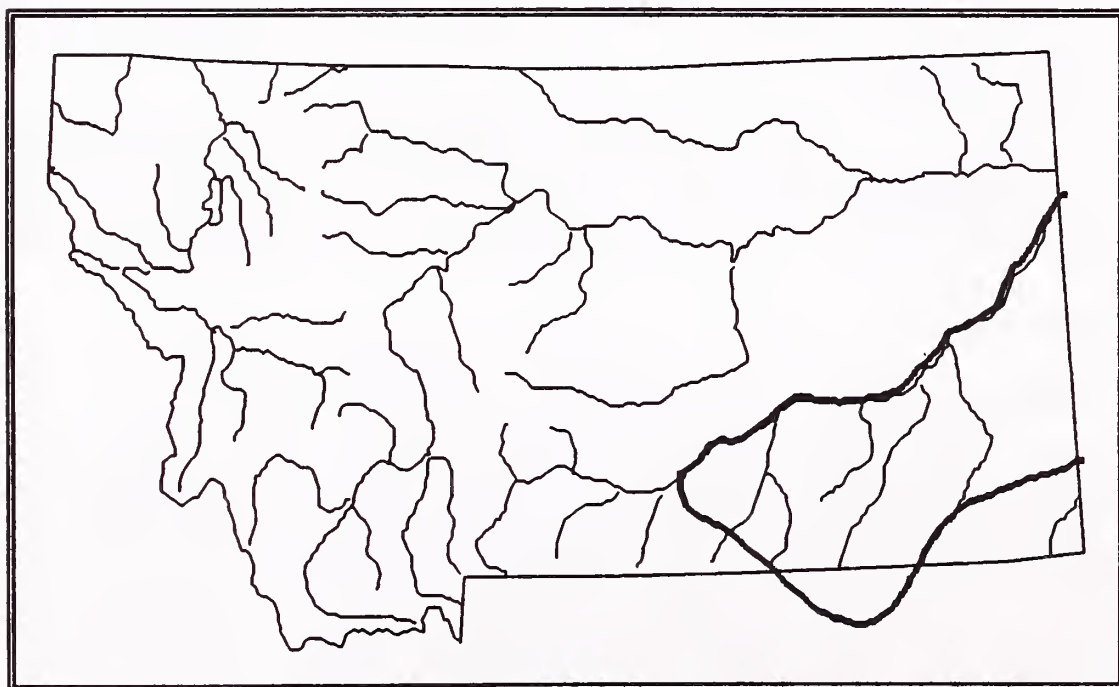


Figure 2. Map of Montana showing the route taken by Larocque during 1805.

wealth of information on the plants, animals, and native inhabitants.

Brackenridge, H.N. 1814. Views of Louisiana. Together with a Journal of a voyage up the Missouri River, in 1811. Quadrangle Books, Inc.

Brackenridge, H.M. 1816. Journal of a voyage up the River Missouri performed in 1811. Baltimore-Cole and Maxwell.

Brackenridge, H.M. 1819. Travels in the interior of America. 1904. Cleveland: Arthur H. Clark Co.

Bradbury, J. 1817. Travels in the interior of America in the years 1809, 1810 and 1811. Sherwood, Neely and Jones, London.

McKelvey, S.D. 1955. Botanical explorations of the trans-Mississippi west, 1790-1850. Arnold Arboretum of Harvard Univ., Jamaica Plain, MA.

David Thompson, 1808-1812:

Thompson was a Canadian fur trader and geographer who worked for the Northwest Fur Company. Between 1808 and 1812, Thompson explored what is now northwestern Montana. During this period, he traveled along the Kootenai, Clark Fork, and Flathead Rivers and his journals provide the first written account of northwestern Montana and Flathead Lake. While exploring in this region he established four trading posts, one of which was in Montana - Salish House. In 1812, Thompson reached his southern limit of explorations in Montana at the site of present day Missoula. Thompson's journals include many well written descriptions of the wildlife and habitat of northwestern Montana. There are several accounts of the size and extent of the coniferous trees in this area. Figure 3 shows the approximate routes taken by Thompson.

Glover, R., ed. 1962. David Thompson's narrative, 1784-1812. The Champlain Society. Toronto.

Henry, A. and D. Thompson. 1897. New light on the early history of the greater Northwest. ed. E. Coues. 3 Vols. Francis P. Harper, New York.

Hopwood, V.G., ed. 1971. David Thompson's travels in western North America, 1784-1812. MacMillan. Toronto.

Thompson, D. 1925. Narrative of the expedition to the Kootenai and Flat Bow Indian countries on the sources of the Columbia River. Oregon Historical Quarterly 26:23-49

Thompson, L.S. 1985. Montana's Explorers: The pioneer naturalists. The Montana Magazine, Helena.

Tyrell, J.B., ed. 1916. David Thompson, narrative of his exploration in northwestern America, 1784-1812. The Champlain Soc., Toronto.

White, M.C. ed. 1950. David Thompson's journals relating to Montana and adjacent regions, 1808-1812. Montana State Univ., Missoula.

Ross Cox, 1812:

Ross Cox was a fur trader who conducted general exploration of the Columbia River and entered Montana along the Clark Fork and Flathead Rivers. His narrative is well written but includes very little natural history information.

Cox, R. 1831. Adventures on the Columbia River. Henry Colburn and Richard Bently, London.

McKenzie, Donald, 1818-1821:

McKenzie was a Canadian working for the Hudson's Bay Company and was in charge of the Snake River brigade. He led several expeditions up the Snake River and, on at least one of these trips, he approached what is now Yellowstone Park. Alexander Ross was the historian for this expedition and gives the first written account of geysers in this area.

Ross, A. 1855. The fur hunters of the far West. 2 vols. Smith, Elder, & Co., London.

Alexander Ross, 1819, 1823-1824:

Ross was a Canadian fur trapper working for the Hudson's Bay Company. He was briefly in charge of the Snake River brigade but was relieved of the job when he befriended Smith and his party. Ross kept extensive notes and recorded much of the early history of the fur trade in the northwest. He was in the Yellowstone Park area in 1819 with McKenzie and traveled along the Clark Fork, Bitterroot, and Bighole Rivers between 1823 and 1824. Although Ross did not specifically record natural history information, he made notes on big game abundance and numbers of animals killed or trapped.

Ross, A. 1913. Journal of Flathead Post in 1825. Oregon Historical Quarterly, 14

Ross, A. 1849. Adventures of the first settlers on the Oregon or Columbia River. London.

Ross, A. 1855. The fur hunters of the far West. 2 vols. Smith, Elder, & Co., London.

William Henry Ashley and Andrew Henry, 1806-1825:

These fur traders along with John Colter, Manuel Lisa, Thomas James, Jedediah Smith and others, explored the Yellowstone and upper Missouri Rivers for its fur potential. They constructed some of the first trading posts in Montana along the Yellowstone and Missouri Rivers. In addition to a journal kept by Ashley, Thomas James recorded the history of their activities. Ashley's journal includes a trip down the Bighorn and Yellowstone Rivers but contains very little natural history information of this region.

Dale, H.C. 1941. The Ashley-Smith explorations. Glendale, CA.

Douglas, W.B. 1916. Three years among the Indians and Mexicans - Thomas James. St. Louis, MO.

Frost, Donald McKay. Notes on General Ashley. (letters from Daniel T. Potts).

Morgan, D.L. 1954-1955. Journal of William H. Ashley. Missouri Historical Society Bulletin, Vol. 11 #1-3

Morgan, D.L. 1964. The west of William H. Ashley. Denver, CO.

Sullivan, M.S. 1934. The travels of Jedediah Smith. The Fine Arts Press. Santa Anna, CA.

Vinton, S. 1926. John Colter, discoverer of Yellowstone Park. New York.

Peter Skene Ogden, 1825:

Ogden, a Canadian fur trader working for the Hudson's Bay Company, was in charge of the Snake River brigade from 1824-1830. He was among the great early explorers of the American west and his travels extended from Montana to the Gulf of California. During 1824 and 1825, he led an expedition from the Flathead Post which eventually traveled portions of the Clarks Fork, Bitterroot, Beaverhead, and Jefferson Rivers as well as covering large portions of the Snake River plains.

Elliott, T.C. 1911. Peter Skene Ogden, fur trader. Oregon Hist. Quart. 2:229-278.

Merk, F. ed. 1934. P.S. Ogden to the Governor, chief factors and chief traders, July 10, 1825. Mississippi Valley Historical Review 21.

Rich, E.E. 1950. Peter Skene Ogden's Snake country journal.
Hudson's Bay Record Society, London.

David Douglas, 1824-1833:

Douglas was a Scottish explorer and botanist who traveled in the Pacific northwest from 1824-1833 but didn't enter Montana during this period. His closest approach to Montana was the present site of Spokane, Washington and Lewiston, Idaho. Douglas kept excellent journals detailing his explorations and botanical discoveries. We recommend reading McKelvey's book for a detailed summary and bibliography of Douglas' work.

McKelvey, S.D. 1955. Botanical explorations of the trans-Mississippi west, 1790-1850. Arnold Arboretum of Harvard Univ., Jamaica Plain, MA.

Friederich Paul Wilhelm, Prince of Wurttemberg, 1830:

Prince Paul's expedition represented the second scientific expedition through Montana. It is believed that Prince Paul ascended the Missouri River to the Three Forks and then crossed over to the Yellowstone River and returned to Fort Union and subsequently back down the Missouri River. Prince Paul apparently collected a variety of plants and animals on his expeditions and recorded his observations of wildlife and habitats in great detail. Unfortunately, his notes were not published at the time of his death (1860) and remained lost until 1928 when they were found at the Royal State Library in Stuttgart. Before historians were able to publish Prince Paul's journals, all was lost in a World War II bombing raid on Stuttgart.

Bek, W.G., trans. 1941. First journey to North America in the years 1822 to 1824, by Paul, Prince of Wurttemberg. South Dakota Historical Collections. Vol. 19 South Dakota Historical Society, Pierre.

Nitske, W.R. and S. Littinville, eds. 1973. Travels in North America, 1822-1844. Univ. of Oklahoma Press, Norman.

Thompson, L.S. 1985. Montana's Explorers: The pioneer naturalists. The Montana Magazine, Helena.

Prince Maximilian of Wied and Karl Bodmer 1833-1834:

In 1833, the German Prince Maximilian and Karl Bodmer, his hired Swiss artist, ascended the Missouri River up to Fort McKenzie for the purpose of exploration and adventure. After staying at Fort McKenzie a little more than a month, they descended the River to Fort Clark where they spent the winter before returning to St. Louis. Maximilian kept a journal in

which he recorded information on Indians and wildlife. Bodmer's paintings correspond well with Maximilian's journal and provide a visual record of his verbal descriptions. Taken together, the journal and paintings provide one of the best accounts of the Missouri River and adjacent plains prior to settlement. Figure 4 shows the route taken by this expedition.

Goetzmann, W.H, D.C. Hunt, M.V. Gallagher, and W.J. Orr. Karl Bodmer's America. Univ. of Nebraska Press, Lincoln.

Gooseman, Mildred; J.G. Lepley; & Mark Brown. 1970. The Missouri - timeless wilderness. Reprinted from Montana, magazine of western history. [Historical comparison photography against Bodmer's sketches of the upper Missouri River.]

Maximilian, Prince of Wied. 1843. Travels in the interior of North America. Ackermann & Co., London.

Maximilian, Alexander Phillip von. 1976. Travels in the interior of North America. Dutton, New York.

Thwaites, R.G., ed. 1966a. Part II of Maximilian, Prince of Wied's travels in the interior of North America, 1832-1834. in: Early Western Travels 1748-1846, Vol 23. AMS Press, Inc. New York

Thomas, D. and K. Ronnefeldt, eds. 1982. People of the first man: life among the plains Indians in their final days of glory; the first hand account of Prince Maximillian's expedition up the Missouri River, 1833-34. Promontory Press, New York. 256 pp.

Thompson, L.S. 1985. Montana's Explorers: The pioneer naturalists. The Montana Magazine, Helena.

Warren A. Ferris, 1831-1834:

Ferris was a trapper who kept a remarkable journal of his travels in the west. Between 1831 and 1834, he was in and out of the area which is now Montana and he recorded general natural history notes as they related to his travels in western Montana. He traveled along the Missouri, Dearborn, Madison, Jefferson, and Beaverhead Rivers in southwestern Montana. He also traveled along the Clark Fork and Blackfoot Rivers and spent time in the Flathead Lake region. Ferris gave one of the first accurate descriptions of geysers on the upper Madison River in what is now Yellowstone Park.

Ferris, W.A. 1940. Life in the Rocky Mountains. The Old West Pub. Co.

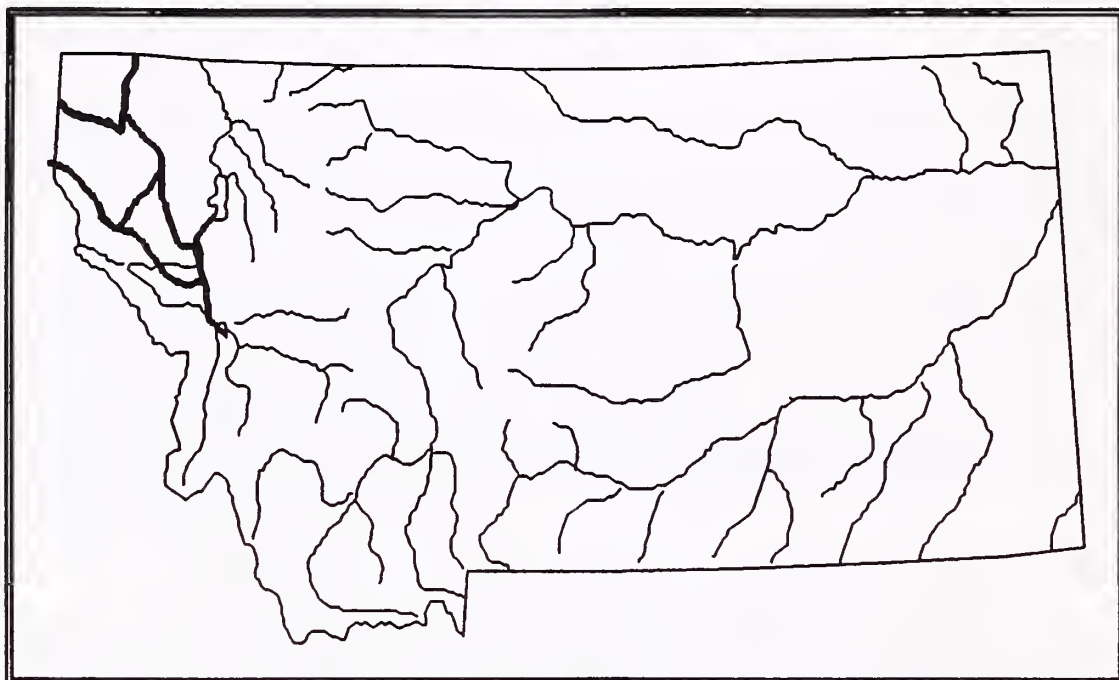


Figure 3. Map of Montana showing the routes taken by David Thompson from 1808 to 1812.

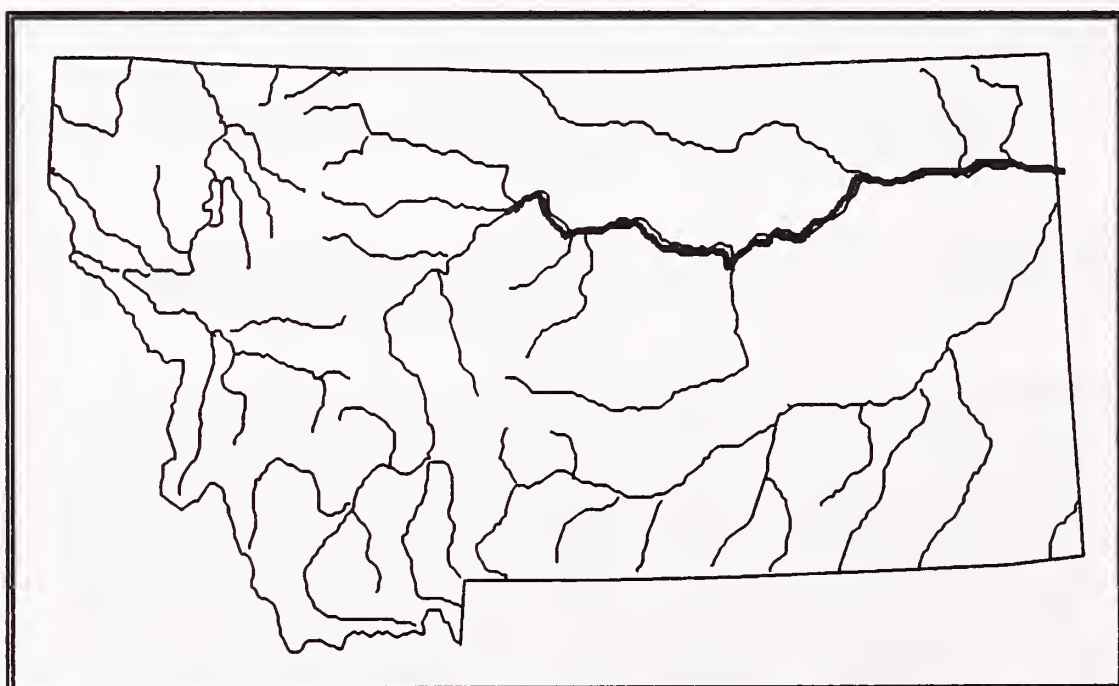


Figure 4. Map of Montana showing the route taken by Prince Maximilian during 1833.

John Work, 1824, 1831-1832:

Work was a British fur trader who traded with the Flathead Indians in 1824 and later became leader of the Snake Riverbrigade. In 1831, he entered Montana over Lolo Pass and ascended the Clark Fork to the Blackfoot River. He then ascended this river to present day Ovando and crossed over to the Little Blackfoot. He descended the Little Blackfoot River to the Clark Fork and then moved up this valley crossing the divide into the Beaverhead Valley (Figure 5) where he and his men wintered. He eventually left this valley by way of Lemhi Pass and returned to the Snake River country. Work's journal contains a fascinating account of the wintering abundance of bison in Montana's southwestern valleys and how this species was pursued by trappers and Indians. His journal makes it clear that bison were chased from one valley to another. Work was methodical at recording numbers of bison killed and beaver trapped. His expedition followed in the footsteps of an American expedition and was a total failure due to the near local extirpation of beaver by the Americans.

Elliott, T.C. ed., 1914. Journal of 1824, John Work. Washington Historical Quarterly, 5.

Lewis, W.S. and P.C. Phillips, ed. 1923.. The journal of John Work, a chief-trader of the Hudson's Bay Co., during his expedition from Vancouver to the Flatheads and Blackfeet of the Pacific Northwest. The Arthur H. Clark Co., Cleveland, OH.

George Catlin, 1832:

Catlin was among the foremost western artists of his day - specializing in the painting of native Americans. He spent the summer and part of the fall of 1832 painting at Fort Union. Many of his paintings include views of the surrounding country and wildlife. In addition to his paintings, Catlin kept notes on native customs, wildlife, and the natural history of the area. Many western journalists who knew Catlin, or knew of him, viewed Catlin's paintings and notes with skepticism. However, Catlin was a very progressive individual and felt that at least some of the wildlife of the upper Missouri should be preserved as a national park in which native Americans could live if they so desired.

Catlin, G. 1876. Illustration of the manners, customs and conditions of North American Indians. Chatto and Windus, Piccadilly, London.

Catlin, G. 1891. Catlin's Indians. Hubbard Bros. Book Co., Philadelphia, PA. 792 pp.

Elman, R. 1977. First in the field: America's pioneering

naturalists. Van Nostrand Reinhold, Ontario.

Nathaniel J. Wyeth, 1833:

Wyeth became involved in the fur trade in 1832; traveling from the east coast to Fort Vancouver and passing just south of Montana. Before leaving on this journey, Thomas Nuttall requested Wyeth to collect a few plants, so on his return trip Wyeth collected plants while crossing portions of Montana. His travels took him along the Clark Fork, Flathead, and Bitterroot Rivers. He then crossed the Divide into the Big Hole drainage and crossed it again going into Idaho. Wyeth re-entered Montana along the Bighorn River and traveled down the Yellowstone to the Missouri (Figure 6). Although Wyeth's journal while in Montana is very brief, he was a careful observer and recorded some natural history notes on bison, elk, and grizzly bears. In 1834, Wyeth headed another expedition to the west, this time accompanied by the botanist, Thomas Nuttall, and ornithologist, John Kirk Townsend. This expedition followed the Oregon Trail and never crossed the Montana border. This classic expedition was well documented by both Wyeth and Townsend. Townsend's journal is above average for natural history content and frequently contains information on bird species not recorded by other explorers.

Biedleman, R.J. 1957. Nathaniel Wyeth's Fort Hall. Oregon Historical Quarterly 58:197-250

Hulbert, A.B. 1934. The call of the Columbia. Denver, CO. [Contains a reprint of Wyeth's 1832 journal and Townsend's 1834 journal.]

McKelvey, S.D. 1955. Botanical explorations of the trans-Mississippi west, 1790-1850. Arnold Arboretum of Harvard Univ., Jamaica Plain, MA.

Nuttall, T. 1834. A catalogue of a collection of plants made chiefly in the valleys of the Rocky Mountains or Northern Andes towards the source of the Columbia River, by Mr. Nathaniel B. Wyeth, and described by T. Nuttall. Journal of the Academy of Natural Sciences of Philadelphia 7:1-60.

Thompson, L.S. 1985. Montana's Explorers: The pioneer naturalists. The Montana Magazine, Helena.

Thwaites, R.G. ed. 1905. Townsend's narrative of a journey across the Rocky Mountains, to the Columbia River. in: Early western travels, 1748-1846. 21:105-369.

Townsend, J.K. 1839. Narrative of a journey across the Rocky Mountains to the Columbia River and a visit to the Sandwich Islands, Chili with a Scientific Appendix. Henry Perkins,

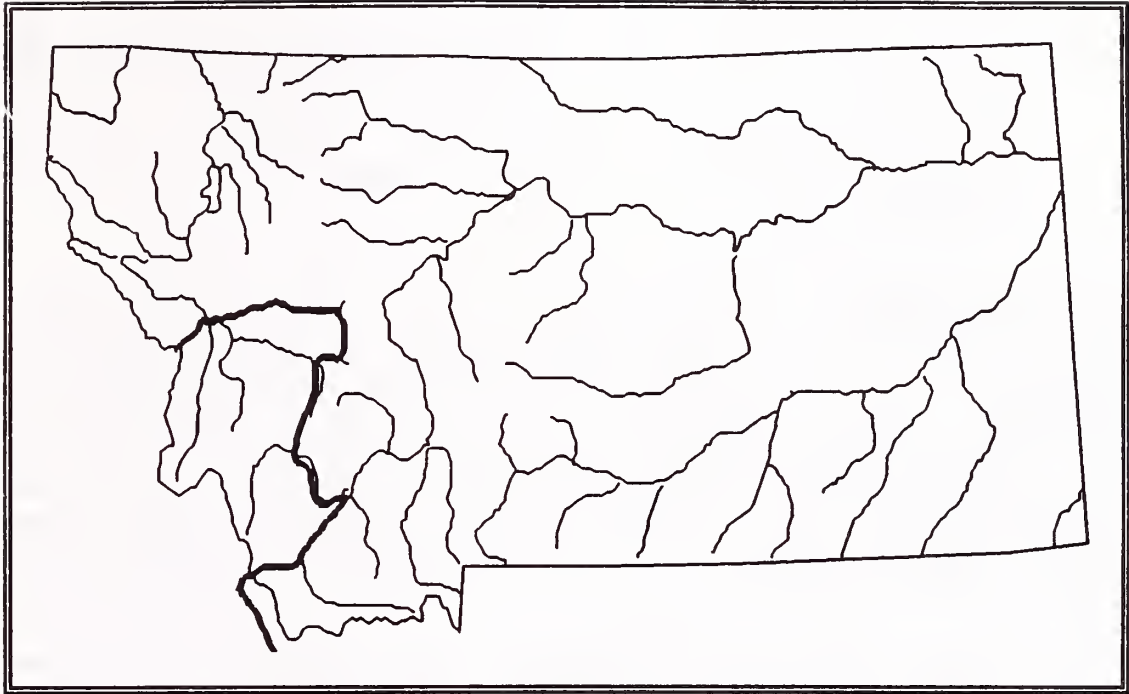


Figure 5. Map of Montana showing the route taken by John Work during 1831 and 1832.

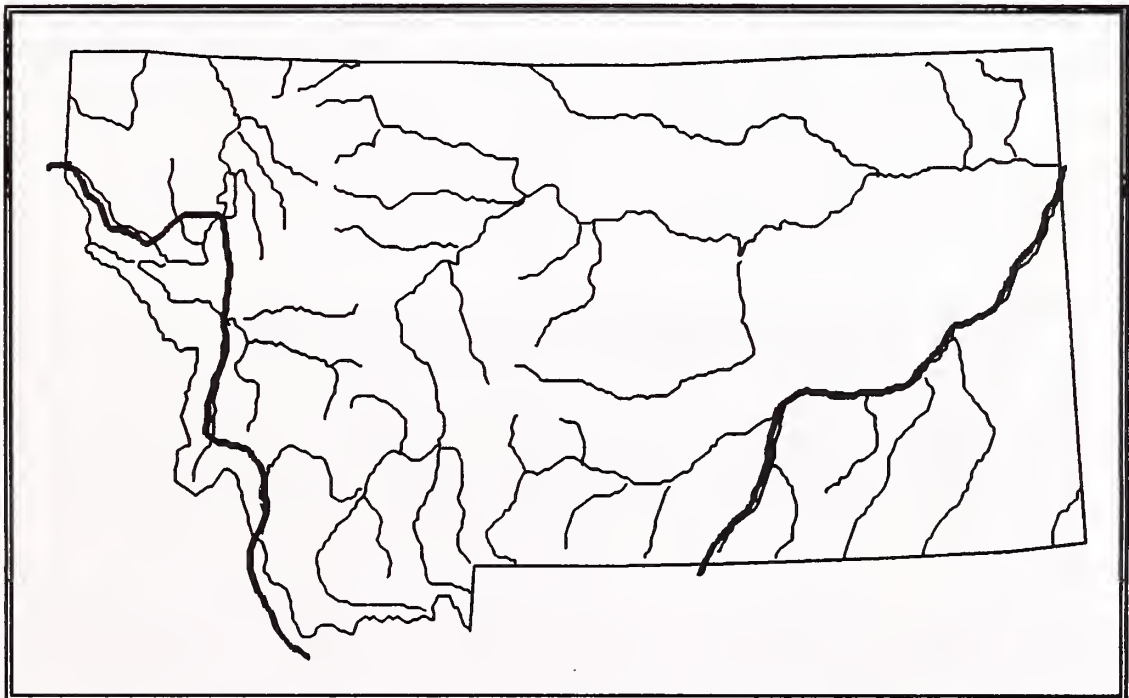


Figure 6. Map of Montana showing the route taken by Nathaniel Wyeth in 1833.

Philadelphia, PA. 259 pp.

Young, F.G. ed. 1899. The correspondence and journals of Captain Nathaniel J. Wyeth, 1831-1836. A record of two expeditions for the occupation of the Oregon country. Sources of the History of Oregon I: parts 3-6. Eugene: Oregon Historical Society.

Osborne Russell, 1833-1843:

Russell was a fur trapper who roamed the northern Rockies from 1834-1843. During this period, he made several trips into Montana. He traveled through what is now Yellowstone National Park on at least two occasions and gives a good description of the Lamar River Valley. Russell also made it clear that elk were the dominant large ungulate of the Yellowstone Park region and that bison were to be found along the Yellowstone River one day's ride north of Gardner's Hole. Russell conducted a considerable amount of trapping along the Yellowstone River and its tributaries, and provides detailed descriptions of the wildlife and habitat. Russell reported immense herds of bison in the vicinity of the Shields River and considered seeing seven or eight grizzly bears in the morning while checking traps as normal. He also traveled in the Jefferson and Beaverhead Valleys. Among all the notes kept by trappers in Montana, his are probably the most detailed and useful in terms of natural history. Figure 7 shows the routes traveled by Russell while in Montana.

Haines, A.L., ed. 1955. Journal of a trapper. Oregon Historical Society, Portland. 191pp. [Journal of Osborne Russell].

York, L.A. ed. 1914. Journal of a trapper, or, Nine years in the Rocky Mountains: 1834-1843.

Wilkes Expedition, 1838-1842:

The Wilkes Expedition (also referred to as the U.S. Exploring Expedition) explored the Pacific northwest primarily in the year 1841 and mostly in the states of Washington and Oregon. This expedition did not reach Montana. Its furthest eastward extension was near the present site of Spokane, Washington and Lewiston, Idaho. William Dunlop Brackenridge was the botanist with this expedition. The expedition resulted in a tremendous number of publications; just the bibliography of papers resulting from the expedition is 186 pages. Due to the extensive nature of the expedition and the fact that it did not approach Montana, none of the original papers are cited here. Instead we recommend reading McKelvey's account of the expedition. He lists the major publications resulting from the Pacific northwest portion of the expedition.

McKelvey, S.D. 1955. Botanical explorations of the trans-Mississippi west, 1790-1850. Arnold Arboretum of Harvard Univ., Jamaica Plain, MA.

Father Pierre Jean DeSmet, intermittent trips 1840-1870:

Over a 30 year period, DeSmet entered Montana on at least seven occasions. During his visits, he traveled along the Milk, Missouri, Yellowstone, Jefferson, Clark Fork, Bitterroot, and Flathead Rivers as well as making a couple of excursions cross-country between some of these drainages (Figure 8). Although DeSmet's main concern was with the Indians, he made numerous observations of wildlife and their habitat. Many of DeSmet's comments on wildlife were based on reports from Indians and as such have added historic value. DeSmet apparently had some botanical training and his reports frequently give scientific names of plants. DeSmet's travels are well documented by his letters and journals.

Chittenden, H.M., and A.T. Richards, eds. 1905. The life, letters, and travels of Father Pierre-Jean DeSmet, S.J., 1801-1873. Francis P. Harper. New York.

DeSmet, P.J. 1843. Letters and Sketches: With a narrative of a year's residence among the Indian tribes of the Rocky Mountains. M. Fithian, Philadelphia, PA.

DeSmet, P.J. 1847. Oregon missions and travels over the Rocky Mountain in 1845-46. Edward Dunigan, New York.

DeSmet, P.J. 1863. Western missions and missionaries: A series of letters. Kirker and Dunigan, New York.

Magaret, H. 1940. Father DeSmet, pioneer priest of the Rockies. Farrar and Rinehart, New York.

Thompson, L.S. 1985. Montana's Explorers: The pioneer naturalists. The Montana Magazine, Helena.

Thwaites, R.G., ed. 1966b. DeSmet's Oregon missions and travels over the Rocky Mountains 1845-1846. in Early Western Travels 1748-1846, Vol 23. AMS Press, Inc., New York.

John J. Audubon 1843:

Audubon, the famed artist and naturalist, visited Fort Union during the summer of 1843. Accompanying Audubon on this trip were John Bell (taxidermist), Isaac Sprague (artist), and Edward Harris (geologist), who assisted in collecting and preparing specimens. During his two month stay at Fort Union, Audubon entered Montana on at least two occasions - one was a two day trip up the Yellowstone and another was an extended trip into the

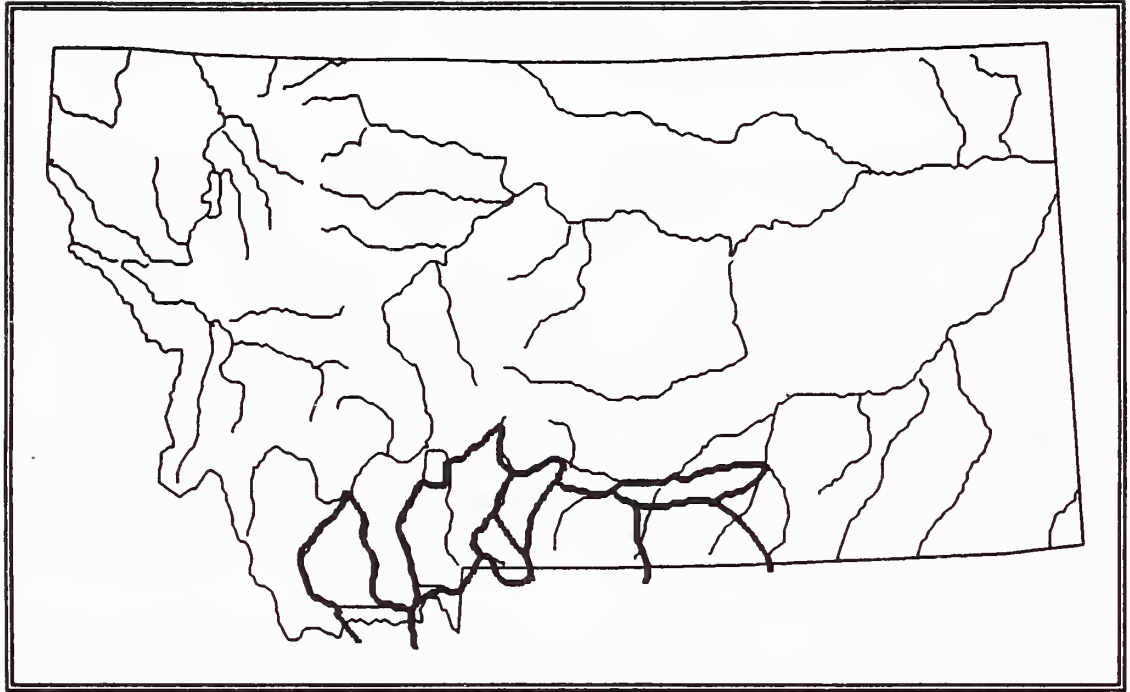


Figure 7. Map of Montana showing the routes taken by Osborne Russell from 1833-1843.

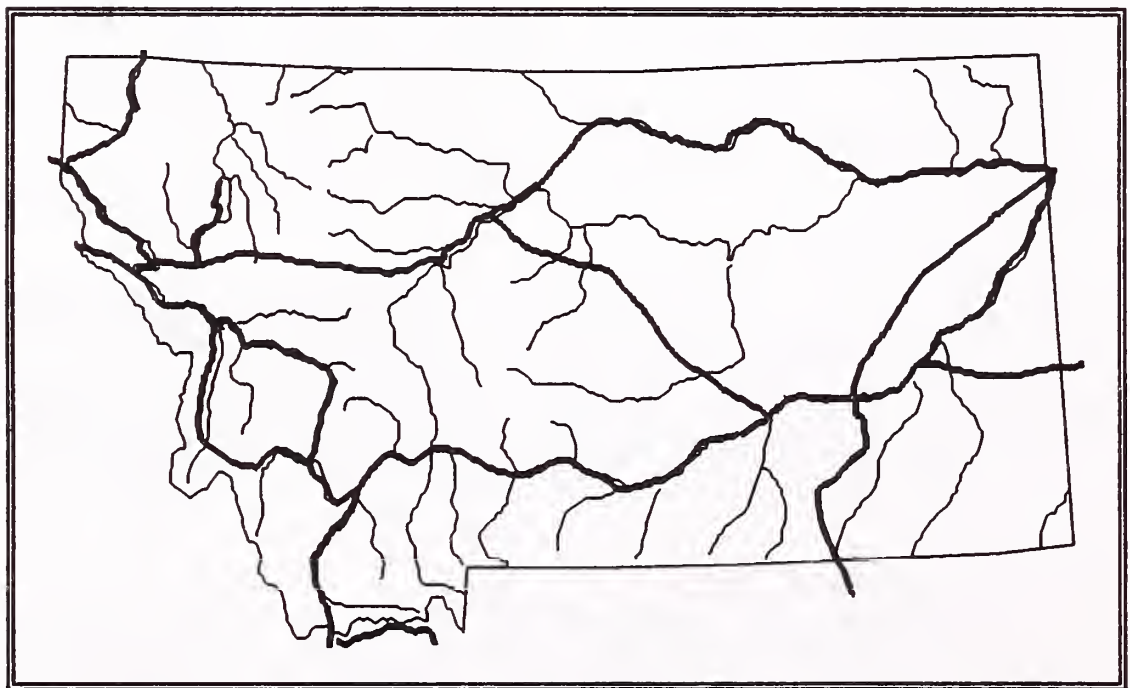


Figure 8. Map of Montana showing the routes taken by Father DeSmet from 1840-1870.

badlands either near Fort Peck or Glendive. The purpose of Audubon's trip to Fort Union was to produce paintings of mammals for his planned publication of *The Viviparous Quadrupeds of North America*. In addition to this pictorial species documentation, Audubon recorded extensive notes on the wildlife of this region.

Adams, A.B. 1966. John James Audubon: A biography. G.P. Putnam's Sons New York.

Audubon, J.J. 1831-1839. Ornithological biography. 5 vols. A. Black, Edinburgh.

Audubon, J.J. 1826-1838. Birds of America. 7 vols. Lizars, and London: Havell, Edinburgh.

Audubon, J.J. and J. Bachman. 1845-1854. The viviparous quadrupeds of North America. 3 vols. New York: V.G. Audubon.

Audubon, M., ed. 1897. Audubon and his journals, with zoological and other notes by Elliott Coues. 2 vols. Charles Schribner's Sons, New York.

Durant, M. and M. Harwood. 1980. On the road with John James Audubon. Dodd, Mead & Co., New York.

Ford, A. ed. 1951. Audubon's animals: The quadrupeds of North America. Thomas Y. Crowell, New York.

Ford, A. ed. 1969. Audubon by himself: A profile of John James Audubon from writings selected, arranged and edited by Alice Ford. The Natural History Press, Garden City, N.Y.

Herrick, F.H. 1917. Audubon the Naturalist: A history of his life and times. 2 vols. D. Appleton & Co. New York.

McDermott, J.F., ed. 1951. Up the Missouri with Audubon, by Edward Harris. Univ. of Oklahoma Press, Norman.

McDermott, J.F., ed. 1965. Audubon in the west. Univ. of Oklahoma Press, Norman.

Thompson, L.S. 1985. Montana's Explorers: The pioneer naturalists. The Montana Magazine, Helena.

Walcheck, K.C. 1980. Audubon bighorn sheep. Montana Outdoors.

Charles A. Geyer, 1843:

Geyer was a German botanist who collected extensively over the Great Plains and Rocky Mountains. In 1843, he joined up with

Sir William Drummond Stewart's expedition into northwestern Wyoming. He then split off from this group and joined Jesuits traveling to Father DeSmet's St Mary's mission (near Corvallis) in the Bitterroot Valley. Geyer entered Montana over the Targhee Pass, descended the Madison River, crossed the Beaverhead and Big Hole Valleys, and entered the Bitterroot Valley via Gibbons Pass. He left Montana following the Clark Fork River. In addition to collecting plants, Geyer's notes provide a detailed description of the vegetation in western Montana. Among his observations are quantitative references to giant ponderosa pine and western red cedar. Figure 9 shows the approximate route taken by Geyer while in Montana.

Geyer, C.A. 1895. Notes on the vegetation and general character of the Missouri and Oregon Territories made during a botanical journey from the state of Missouri Across the south-pass of the Rocky Mountains to the Pacific, during the years of 1843 and 1844. *London Journal of Botany* 4:479-492, 653-662; 5:22-41, 198-208, 285-310, 509-524.

Hooker, W.J. 1847-1856. Catalogue of Mr. Geyer's collection of plants gathered in the Upper Missouri, the Oregon Territory, and the intervening portion of the Rocky Mountains. *London Jour. Bot* 6:65-79; *Hooker's Jour. Bot.* 3:287-300; 5:257-265; 7:371-378; 8:16-19.

Thompson, L.S. 1985. Montana's Explorers: The pioneer naturalists. *The Montana Magazine*, Helena.

Joseph Burke, 1845:

In 1844, Burke, who was from England, descended the Columbia River from Canada to Fort Walla Walla and then ascended the Snake River to Fort Hall. In June 1845, he crossed the Divide into the Beaverhead Valley of Montana for the purpose of collecting plants (Figure 10), descended the Jefferson River to Three Forks, and crossed over to the headwaters of the Musselshell River. He then descended the Musselshell for a considerable distance before heading south to the Yellowstone River near the mouth of the Bighorn River. He ascended the Yellowstone, crossed Bozeman Pass, and proceeded to the Three Forks of the Missouri River. From this point, he ascended the Madison River and on back to Fort Hall. Although very little of Burke's collections were ever deposited into museums, his letters provide some information on the early natural history of those areas of Montana through which he traveled.

Burke, J. [His letters to William Jackson Hooker at Kew. A microfilm and photostats of these letters are in the Arnold Arboretum of Harvard Univ.]

McKelvey, S.D. 1955. Botanical explorations of the trans

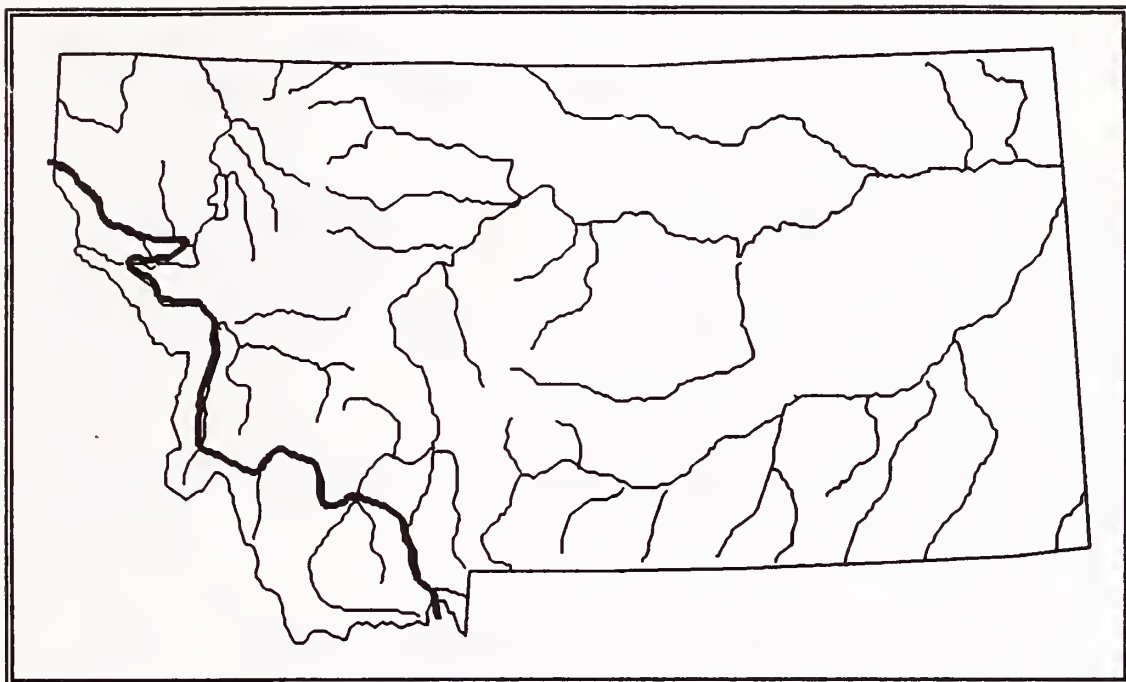


Figure 9. Map of Montana showing the route taken by Charles Geyer during 1843.

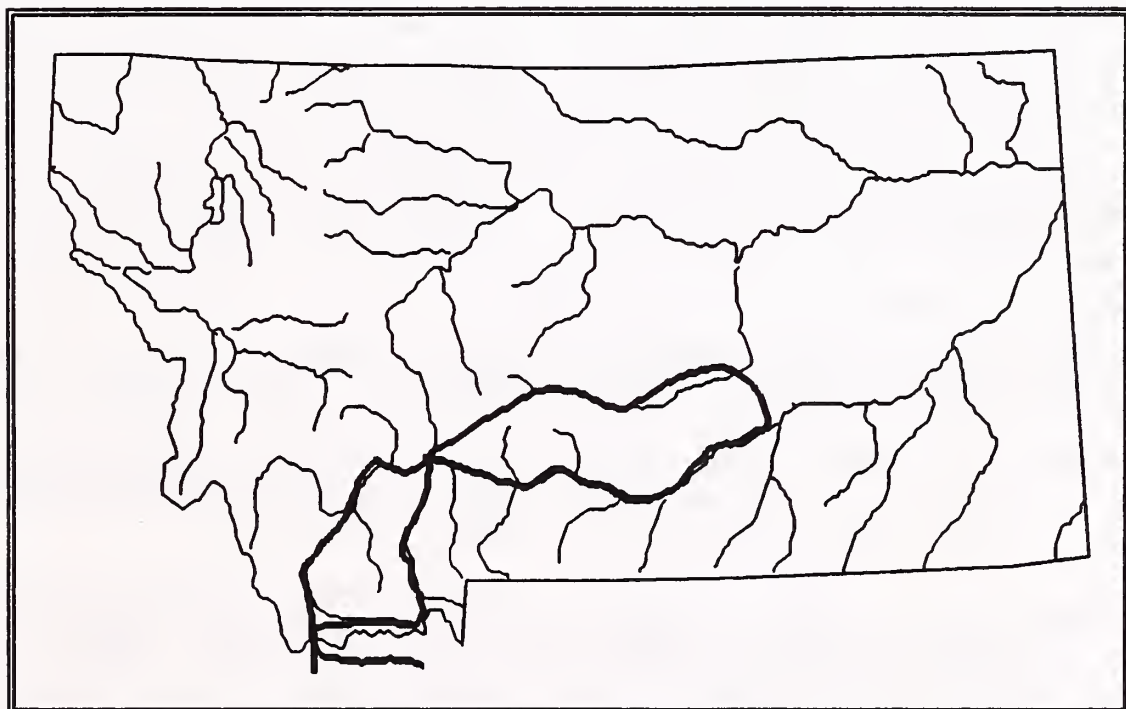


Figure 10. Map of Montana showing the route taken by Joseph Burke during 1845.

-Mississippi west, 1790-1850. Arnold Arboretum of Harvard Univ., Jamaica Plain, MA.

Thompson, L.S. 1985. Montana's Explorers: The pioneer naturalists. The Montana Magazine, Helena.

John Palliser Hunting Expedition 1847-1848:

Palliser was a wealthy Irish adventurer who entered Montana for the first time in 1847 along the Lower Yellowstone for sport hunting purposes. He spent most of the winter of 1847-48 hunting around Fort Union, although he made one extended trip along the Missouri River. The spring of 1848 he again ascended the Yellowstone River up to the Bighorn River for more hunting and fishing (Figure 11). During these excursions into Montana, he recorded a considerable amount of natural history notes; as a hunter, he especially focused his attention on the large mammals of this region.

Palliser, J. 1853. Solitary rambles and adventures of a hunter in the prairies. John Murray, London.

Edwin Thompson Denig, Charles Larpenteur, Francis Chardon:

These three individuals worked at trading posts (primarily Forts Union and Clark) along the upper Missouri River during the rise and fall of the 19th Century fur trade and they each kept a journal. Although their journals primarily deal with fur trade and Indians, they consistently present some natural history information relating to this region. Denig provides a detailed summary of plants, animals, and general nature of the country occupied by each of five Indian tribes in this region. Chardon's journal gives some idea of the number and frequency with which bison grazed the prairies. In addition, Chardon noted the frequency of prairie fires. These journalists also provide additional accounts of the activities of visiting naturalists such as Audubon, Father DeSmet, Palliser, and Culbertson.

Abel, A.H. 1932. Chardon's journal at Ft. Clark: 1834-1839. S. Dakota Dept. Hist., Pierre.

Coues, E., ed. 1898. Forty years a fur trader on the upper Missouri, the personal narrative of Charles Larpenteur, 1833-1872. Francis P. Harper, New York.

Denig, E.T. 1930. Indian tribes of the upper Missouri. ed. by J.N.B. Hewitt. 46th Ann. Rep. Bur. Amer. Ethnol., 1928-1929, pp 375-628.

Denig, E.T. 1961. Five Indian tribes of the upper Missouri. ed. J.C. Ewers. Univ. of Oklahoma Press, Norman.

Thaddeus A. Culbertson 1850:

Thaddeus Culbertson was the younger brother of Alexander Culbertson and was educated at Yale in biology. He spent time at Forts Pierre, Clark, and Union in 1850 observing Indians and wildlife and traveled up the Missouri River to the mouth of the Milk River. The elder Culbertson arranged a trip for his younger brother from Fort Pierre to the badlands of South Dakota to make natural history observations and collect fossils. His notes are probably some of the best natural history notes of this area for that time period. McDermott has included, with Culbertson's journal, the list of plants collected by Culbertson, and birds and mammals observed by Edward Harris along the upper Missouri River.

McDermott, J.F., ed. 1950. Journal of an expedition to the Mauvaises Terres and the upper Missouri in 1850 by Thaddeus Culbertson. Smithsonian Institution Bulletin on American Ethnology 147:1-145.

Porter, T.C. 1851. List of plants collected by Mr. T.A. Culbertson on an expedition to the Mauvaises Terres and upper Missouri in 1850. Fifth Annual Report. Smithsonian Institution, Washington DC. 1851:133-136.

Rudolph F. Kurz 1851-1852:

Kurz spent the summer of 1851 through the spring of 1852 at Fort Union for the purpose of painting Indians, trappers, and scenes of frontier life. Kurz was an excellent journalist and recorded detailed information of life around Fort Union. The majority of his time was spent at the Fort painting and working for his keep. However, he went on a couple of hunting excursions in this area and his notes include aspects of natural history not recorded by other observers including seeing magpies feeding on the backs of bison.

Kurz, R.F. 1937. Journal of Rudolph Friedrich Kurz; an account of his experiences among fur traders and American Indians on the Mississippi and upper Missouri Rivers during the years 1846-1852. Trans. by M. Jarrell. Edited by J.N.B. Hewitt. U.S.G.P.O. Bulletin 115 Smithsonian Institution, Bureau of American Ethnology. Washington DC.

Sir George Gore, 1854-1856:

Gore was an extraordinarily wealthy Scottish nobleman who came to America for sport and adventure. All information of this expedition is of a secondhand nature. He hired the best mountain men of the day for his guides, including Jim Bridger, and it is from their accounts that we know his route and activities. His hunting party traveled from Fort Laramie down the Powder River to the Yellowstone River, then over to the Tongue River (Figure 12).

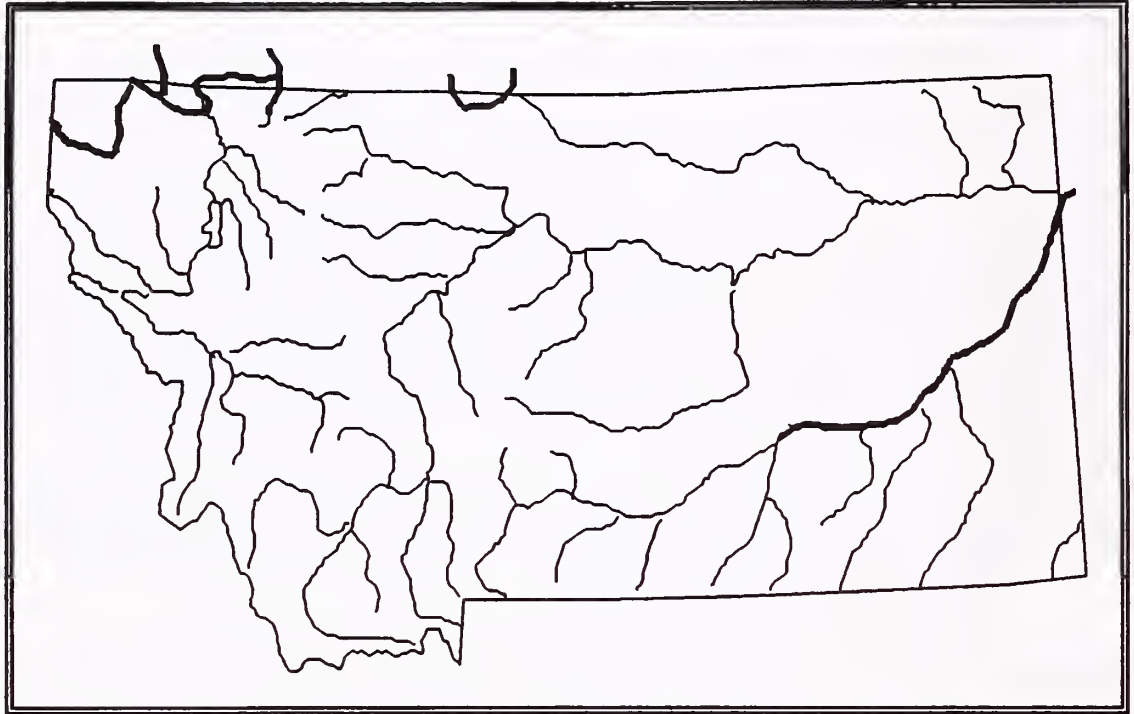


Figure 11. Map of Montana showing the routes taken by John Palliser during 1847, 1848, and 1857-1860.

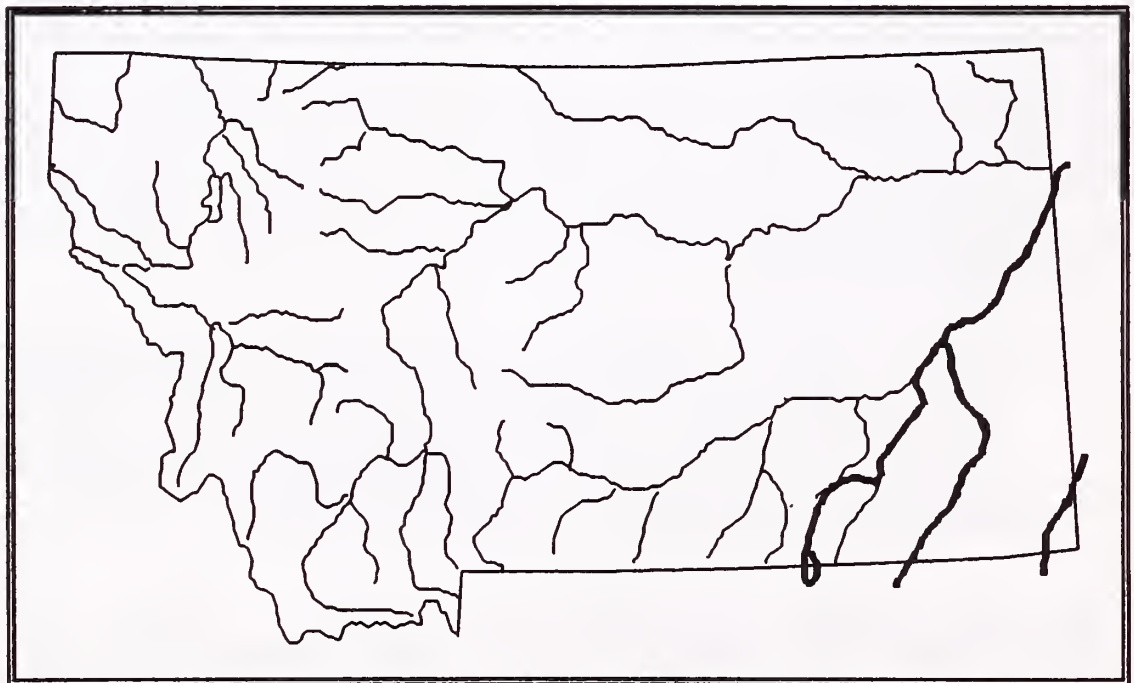


Figure 12. Map of Montana showing the route taken by Sir George Gore during 1855 and 1856.

Gore's party spent the winter at the mouth of the Tongue River where they were reported to have killed 6,000 bison, 1,600 elk and deer, and 105 grizzly bears. In the spring of 1856, he traveled down the Yellowstone to Fort Union. During a dispute with personnel at Fort Union over selling his equipment, Gore ordered his men to burn all of his equipment and supplies except his guns and alcohol (the entire supply was consumed by his men and spectators while the fire burned his wagons). The last thing thrown on the fire was his journal! Gore then led a hunting expedition to the Black Hills which ended abruptly near Sundance, WY, when Sioux Indians took all the party's horses, guns, and clothes. Gore and his men survived this ordeal but he died in transit to Europe. The book by Roberts is a well written reconstruction of the expedition with previously unpublished journal notes and old photos.

Heldt, F.G. 1876. Sir George Gore's Expedition. Montana Historical Society Contributions. State Publishing Company, Helena. Vol. I:144-148.

Roberts, J. 1977. The amazing adventures of Lord Gore. Sundance Publishing Co. Silverton, CO.

Governor Steven's Pacific Railroad Surveys, 1853-1854:

This was a survey headed by Isaac Stevens, the first governor of the newly created Washington Territory. The purpose of the survey was to explore a route across Montana between the 45th and 49th parallels for a transcontinental railroad. This survey split into smaller expeditions, each exploring possible routes across Montana (Figure 13). As a result, many previously unexplored areas of Montana came under professional scrutiny. Spencer F. Baird of the Smithsonian Institute was placed in charge of organizing the natural history portion of the expedition and selecting the naturalists who would accompany them. Among those he selected were George Suckley, James Graham Cooper, and John Pearsall, all who were able to accumulate a wealth of natural history information. These surveys also employed professional artists and the resulting reports are accompanied by beautiful illustrations.

Albright, G.L. 1921. Official explorations for Pacific railroads, 1853-1855. Univ. of California Press, Berkeley.

Baird, A.B. 1857. Mammals (Part 1), in: Reports of explorations and surveys for a railroad from the Mississippi River to the Pacific Ocean. Vol. 8. 757 pp.

Baird, S.F. and G.N. Lawrence. 1858. Reports of explorations and surveys to ascertain the most practicable and economical route for a railroad from the Mississippi River to the Pacific Ocean. Birds, Vol 9., A.O.P. Nicholson, Washington,

- Cooper, J.G. and G. Suckley. 1854. The natural history of Washington Territory, with much relating to Minnesota, Nebraska, Kansas, Oregon, and California, between the thirty-sixth and forty-ninth parallels of latitude, being those parts of the final reports on the survey of the northern Pacific railroad route, containing the climate and physical geography, with full catalogues and descriptions of the plants and animals collected from 1853-1857. Bailliere Bros., New York.
- Girard, C. 1858. The fishes of the Pacific Railroad Survey. Pacific Railroad Reports, 10:1-400.
- Goetzmann, W.H. 1959. Army exploration in the American west 1803-1863. Yale Univ. Press, New Haven, CT.
- Goetzmann, W.H. 1967. Exploration and Empire: The explorer and the scientist in the winning of the west. Alfred A. Knopf, New York.
- Hume, E.E. 1942. Ornithologists of the United States Army Medical Corps. Johns Hopkins Press, Baltimore, MD.
- Mullan, J. 1855. Report of an exploration from Fort Benton to the Muscle Shell River, and thence by the southern Little Blackfoot River to the St. Mary's River. in: Stevens, I.I., compiler. Report of exploration of a route for the Pacific Railroad-Governor Stevens' report to the Secretary of War. Senate Executive Document 78, 33rd Congress, 2 Sess., v.1. U.S. Govt. Print. Off., Washington, DC.
- Mullan, J. 1855. Report of a reconnaissance from the Bitter Root Valley to Fort Hall and back. in: Stevens, I.I., compiler. Report of exploration of a route for the Pacific Railroad-Governor Stevens' report to the Secretary of War. Senate Executive Document 78, 33rd Congress, 2 Sess., v.1. U.S. Govt. Print. Off., Washington, DC.
- Suckley, G. 1860. Report on the fishes collected on the Pacific Railroad Survey. Pacific Railroad Rep., 12(Pt. III), No. 5:307-368.
- Thompson, L.S. 1985. Montana's Explorers: The pioneer naturalists. The Montana Magazine, Helena.
- U.S. War Dept. 1855-1860. Reports of explorations and surveys to ascertain the most practicable and economical route for a railroad from the Mississippi River to the Pacific Ocean. 12 vols. U.S. Govt. Print. Off., Washington, DC.

Hayden Survey, 1854-1855:

Hayden was an American born geologist and naturalist who contributed greatly to the natural history explorations of the western United States. He led or accompanied six expeditions that penetrated Montana between 1854 and 1877. After working the summer of 1853 for an eastern college geology professor along the White River in South Dakota, he led his first expedition to Montana in 1854-1855. On this expedition, he explored the upper Missouri and Yellowstone Rivers (Figure 14). Hayden funded this expedition himself and primarily collected fossils. Although Hayden's main interest was in geology, he recorded excellent natural history notes and made valuable plant and animal collections.

Engelmann, G. 1862. Plants collected during the exploration of the upper Missouri by F.V. Hayden in 1853. Trans. Amer. Philos. Soc. 12:182-212.

Hayden, F.V. 1858. Plants collected during the exploration of the Upper Missouri by F.V. Hayden. Rept. Sec. War for 1858. 2:726-747.

Hayden, F.V. 1862. On the geology and natural history of the Upper Missouri. Trans. Amer. Philosoph. Society new series 12:1-183.

Lanham, U.N. 1973. The bone hunters. Columbia Univ. Press., New York.

Thompson, L.S. 1985. Montana's Explorers: The pioneer naturalists. The Montana Magazine, Helena.

Warren Expedition, 1856:

In 1856, Hayden was appointed to be the chief naturalist on the Warren expedition. This was a military expedition with orders to explore the Yellowstone River. However, the expedition first made a brief trip up the Missouri by boat about 60 miles above Fort Union and then returned to Fort Union where they were able to purchase some of Sir George Gore's wagons and supplies. They then slowly traveled up the Yellowstone to the mouth of the Powder River (Figure 15). In addition to fossils, Hayden collected plants, mammals, birds, fishes, reptiles, and amphibians. Although the Warren Expedition did not achieve its military objective, it produced a wealth of natural history information. Warren also led expeditions into the Dakota and Nebraska territories in 1855 and 1857. In this latter year, he was within sight of the Black Hills but was turned back by Sioux Indians.

Schubert, F.N., ed. 1981. Explorer on the northern plains: Lieutenant Governor K. Warren's preliminary report of

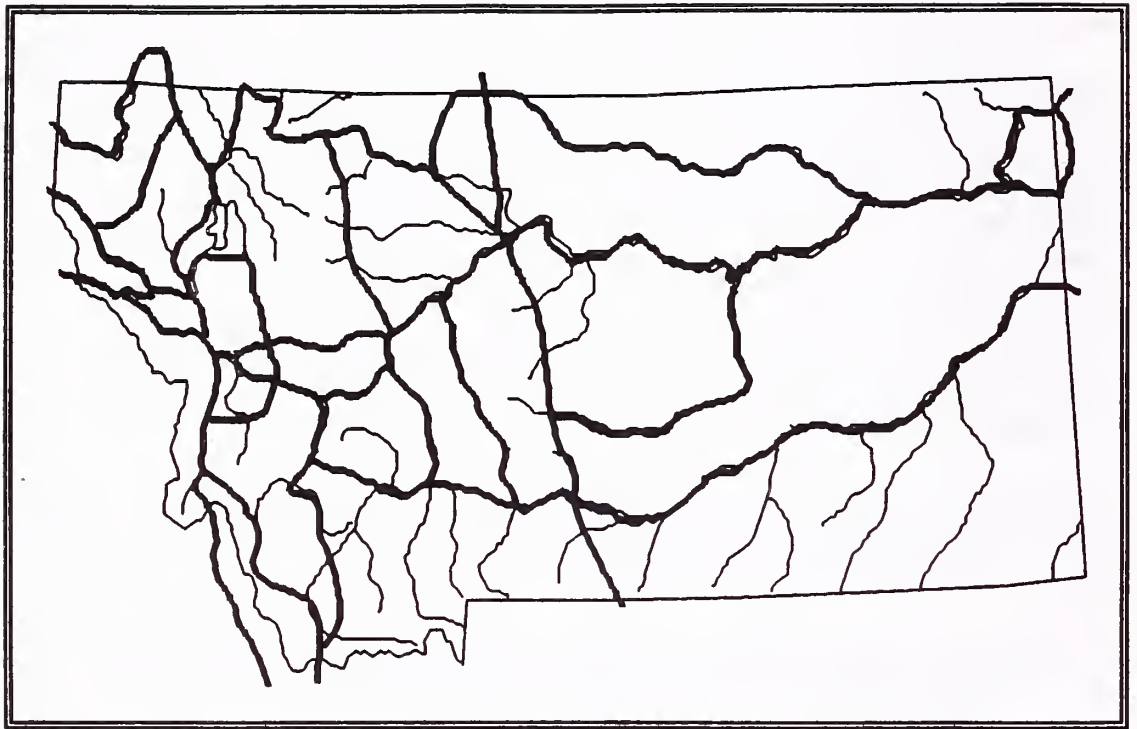


Figure 13. Map of Montana showing the routes taken by the Pacific Railroad Surveys during 1853 and 1854.

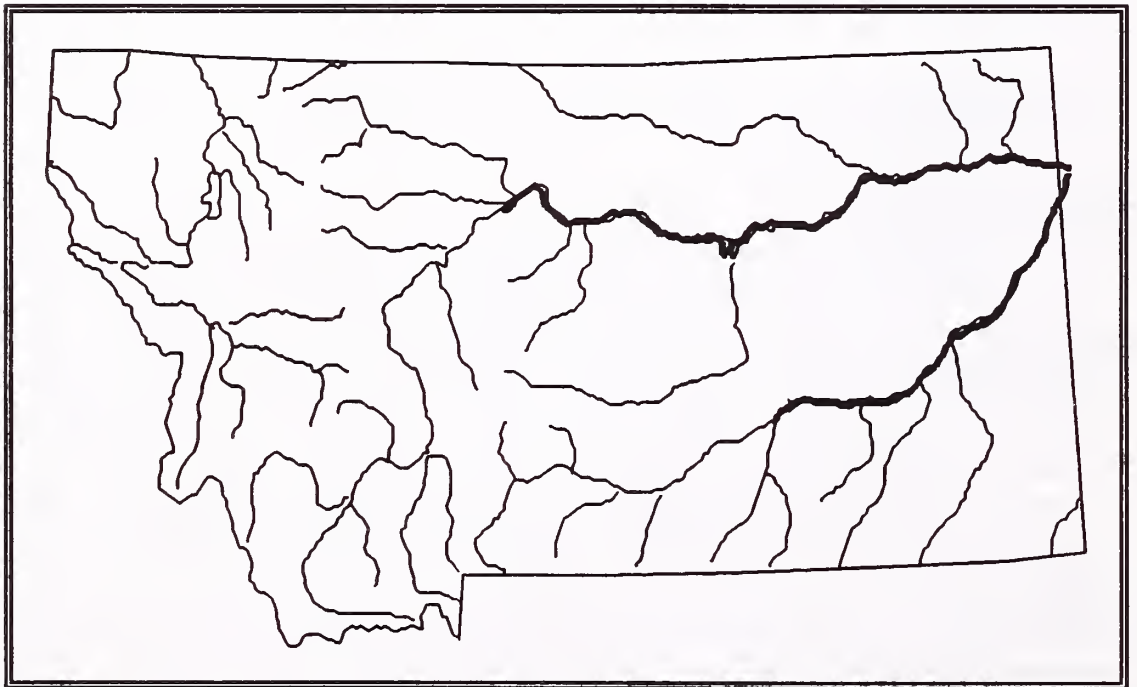


Figure 14. Map of Montana showing the route taken by Ferdinand Hayden during 1854 and 1855.

explorations in Nebraska and Dakota in the years 1855-'56-'57. Engineer Historical Studies, No. 2. Office of the Chief of Engineers, Washington DC.

Warren, G.K. 1858. Preliminary report of explorations in Nebraska and Dakota in the years 1855-'56-'57. U.S. Govt. Print. Off., Washington DC.

Raynolds Expedition, 1859-1860:

Following recommendations of Warren's report, the U.S. Army launched another expedition in 1859 to explore the upper Yellowstone. This expedition was headed by William F. Raynolds and he appointed Hayden as his surgeon/naturalist. This turned into a two year expedition which explored large areas of southern Montana, northwestern Wyoming, and even the upper Missouri River (Figure 16). Again, Hayden did a credible job collecting specimens and recording natural history information. It was on this expedition that mountain plovers were first collected from Montana - one at the mouth of the Smith River, and another near the mouth of Otter Creek (now Sweetgrass Creek) near Big Timber.

Hayden, F.V. 1862. On the geology and natural history of the upper Missouri. Trans. of the Amer. Philosophical Society new series 12:1-183.

Hayden, F.V. 1869. Geographical report of the exploration of the Yellowstone and Missouri Rivers under the direction of Captain W.F. Raynolds, Corps of Engineers, 1859-60. U.S. Govt. Print. Off., Washington DC.

McFarling, L. 1955. Exploring the northern plains, 1804-1876. Caxton, Caldwell, ID.

Raynolds, W.F. 1868. Report on the exploration of the Yellowstone and Missouri Rivers in 1859-1860. Senate Executive Document 77, 40th Congress 2nd Sess. 1317. U.S. Govt. Print. Off., Washington, DC. 174 pp.

British North American Expedition, 1857-1860:

A decade after John Palliser embarked on his hunting adventures along the Yellowstone and Missouri Rivers, he returned to North America to lead the British North American Expedition for the British Royal Geographical Society. Included on this expedition were Eugene Bourgeau (botanist), James Hector (geologist/naturalist), and Thomas Wright Blakiston (ornithologist). This expedition systematically explored southern Saskatchewan and Alberta, and frequently crossed the 49th parallel into parts of Montana, Idaho, and Washington (Figure 11). This was the first scientific survey of the region on Montana's northern border and the results were well

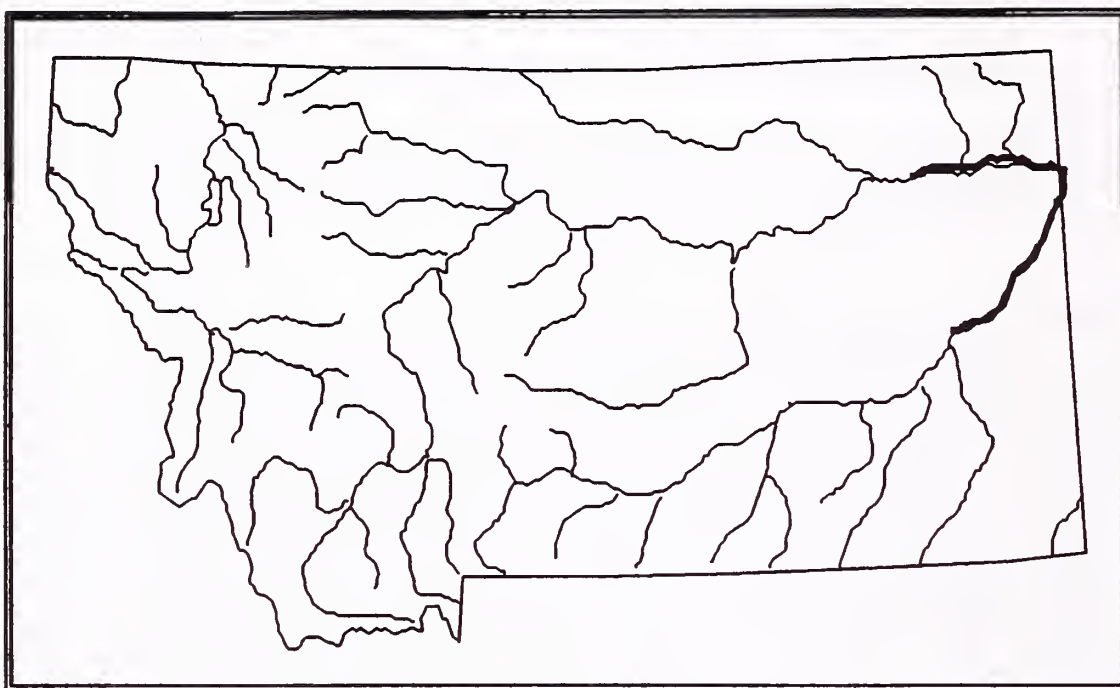


Figure 15. Map of Montana showing the route taken by the Warren Expedition during 1856.

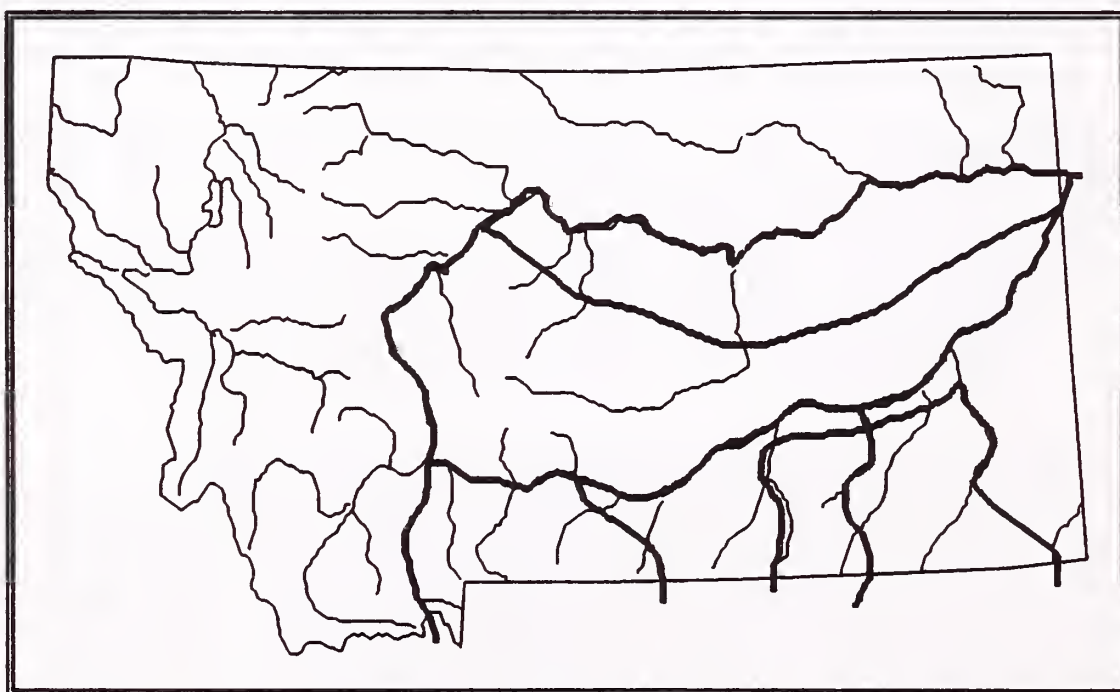


Figure 16. Map of Montana showing the routes taken by the Reynolds Expedition during 1859 and 1860.

documented.

Blakiston, T.W. 1859. Report of the exploration of two passes through the mountains in 1858. Woolwich.

Blakiston, T.W. 1859. Report of the exploration of Kootenai and Boundary Passes of the Rocky Mountains in 1858. Occasional Papers of the Royal Artillery Institution, London. I:237-254.

Blakiston, T.W. 1862-63. On birds collected and observed in the interior of British North America. The Ibis 3:314-320, 4:3-10, 5:39-87, 122-155.

Hind, H.Y. 1860. Narrative of the Canadian Red River Exploring Expedition of 1857 and the Assiniboine and Saskatchewan Expedition of 1858. 2 vols. London.

Palliser, J. 1863. The journals - detailed reports and observations relative to the explorations of that portion of British North America which lies between the British boundary line and the height of land or watershed of the northern or frozen ocean respectively and a longitude between the western shore of Lake Superior and the Pacific Ocean during the years 1857, 1858, 1859, 1860. London.

Palliser, J. 1863. Exploration - British North America. Eyre and Spotteswoode, for H.M. Stationary Office, London.

Spry, I.M. 1963. The Palliser Expedition: An account of John Palliser's British North American Expedition 1857-1860. The MacMillan Co., Toronto.

Spry, I.M., ed. 1968. The papers of the Palliser Expedition, 1857-1860. The Champlain Society, Toronto.

Thompson, L.S. 1985. Montana's Explorers: The pioneer naturalists. The Montana Magazine, Helena.

The Northwest Boundary Survey, 1857-1861:

This was a joint American/British survey of the U.S. and Canadian border from the years 1857-1861. This expedition was well funded and staffed with excellent naturalists. The American portion of the expedition was headed by Archibald Campbell and his naturalists were Joseph S. Harris and Dr. C.B.R. Kennerly. James Madison Alden, an artist, accompanied the expedition. Through unfortunate circumstances, nearly all documentation of the American portion of the survey was lost except for some paintings by Alden. The results of the British portion of the survey were also misplaced for nearly 30 years but were finally found at the Royal Observatory library in England. The British

expedition was headed by John Summerfield Hawkins and serving under him as naturalists were the botanist, David Lyall, and ornithologist, John K. Lord. These latter two men kept detailed records of the plants and animals of this region and assembled valuable collections. The expedition followed the U.S.-Canadian border, cutting a 40-foot wide path (see Goetzmann for photo), through the forest from the Pacific to the Continental Divide in what is now Glacier National Park (Figure 17).

Baker, M. 1900. Survey of the northwestern boundary of the United States, 1857-1861. Geological Survey Bulletin No. 174. U.S. Dept. of Interior, Washington, DC.

Deutsch, H.J. 1962. A contemporary report on the 49° boundary survey. Pacific Northwest Quarterly 53:17-33.

Goetzmann, W.H. 1959. Army exploration in the American west 1803-1863. Yale Univ. Press, New Haven, CT.

Klotz, O. 1917. The history of the forty-ninth parallel survey west of the Rocky Mountains. Geographical Review 3:383-387.

Lord, J.K. 1866. The naturalist in Vancouver Island and British Columbia. 2 vols. Richard Bentley, London.

Lord, J.K. 1876. At home in the wilderness: What to do there and how to do it: A handbook for travellers and emigrants. Hardwicke and Rogue, London.

Lyall, D. 1863. Account of the botanical collections made by David Lyall, M.D., R.N., F.L.S., Surgeon and Naturalist to the North American Boundary Commission. Journal of the Linnaean Society of London 7:124-144.

Mitten, W. 1864. The bryologia of the Survey of the 49th parallel of latitude. Jour. Linnaean Soc. 8:13-55.

Stanley, G.F., ed. 1970. Mapping the frontier: Charles Wilson's diary of the survey of the 49th parallel 1858-1862, while secretary of the British Boundary Commission. Univ. of Washington Press, Seattle.

Stenzel, F. 1975. James M. Alden: Yankee artist of the Pacific Coast, 1854-1860. Amon Carter Museum, Fort Worth, TX.

Thompson, L.S. 1985. Montana's Explorers: The pioneer naturalists. The Montana Magazine, Helena.

Granville Stuart, 1857-1918:

Stuart was an early Montana miner, rancher, and settler. He entered Montana in 1857 and, with the exception of a few

excursions abroad, remained in the state until his death in 1918. He traveled extensively throughout Montana and his journals contain some natural history information. However, the majority of this information is directed at timber and grass conditions. Stuart was appointed State land agent in 1891 and was responsible for selecting over 600,000 acres of land which was transferred from the Federal to the State government. There may be a record of written accounts on many of these parcels as Stuart apparently did many field inspections.

Phillips, P.C. ed. 1957. Forty years on the frontier as seen in the journals and reminiscences of Granville Stuart. vol 1. The Arthur Clark Co., Glendale, CA. 265 pp.

Stuart, G. 1963. Diary and sketchbook of a journey to "America" in 1866, and return trip up the Missouri River to Fort Benton, Montana. Dawson's Book Shop, Los Angeles, CA. 55 pp.

Mullan Military Road and Blake Expedition, 1859-1860:

John Mullan, after successfully leading a survey party on the Stevens Pacific Railroad Survey, pressed for and received funding for a military road to cross the northern Rockies from Fort Benton to Fort Walla Walla (Figure 18). Construction began in 1859 and was completed in 1860. The Blake Expedition was a military party of about 250 men under the command of Major G.M. Blake with orders to test the feasibility of moving a large military unit to the West Coast, crossing the interior of North America by following the Missouri River and the Mullan Military Road. Up to this point, troops had been moved by boat, transferring between Oceans in Panama. Attached to this military expedition as surgeon/naturalist was Dr. James G. Cooper. The expedition set a slow pace and took nearly two months to cross Montana (one month was spent at Fort Benton). During this period, Cooper took advantage of the time to collect bird and mammal specimens and record natural history information. This information was published as a series of articles in the American Naturalist eight years later.

Cooper, J.G. 1868-69. The fauna of Montana Territory. Amer. Nat. 2:528-538, 596-600, 3:73-84, 294-299, 405-422.

Cooper, J.G. 1869. Notes on the fauna of the upper Missouri. Amer. Nat. 3:294-299

Cooper, J.G. 1869. The sylvia of Montana. Amer. Nat. 3:405-422.

Mullan, J. 1861. Report of Lieutenant Mullan, in charge of the construction of the military road from Fort Benton to Fort Walla Walla. 36th Congress, 2 Sess., House Executive Document 44. U.S. Govt. Print. Off., Washington, DC.

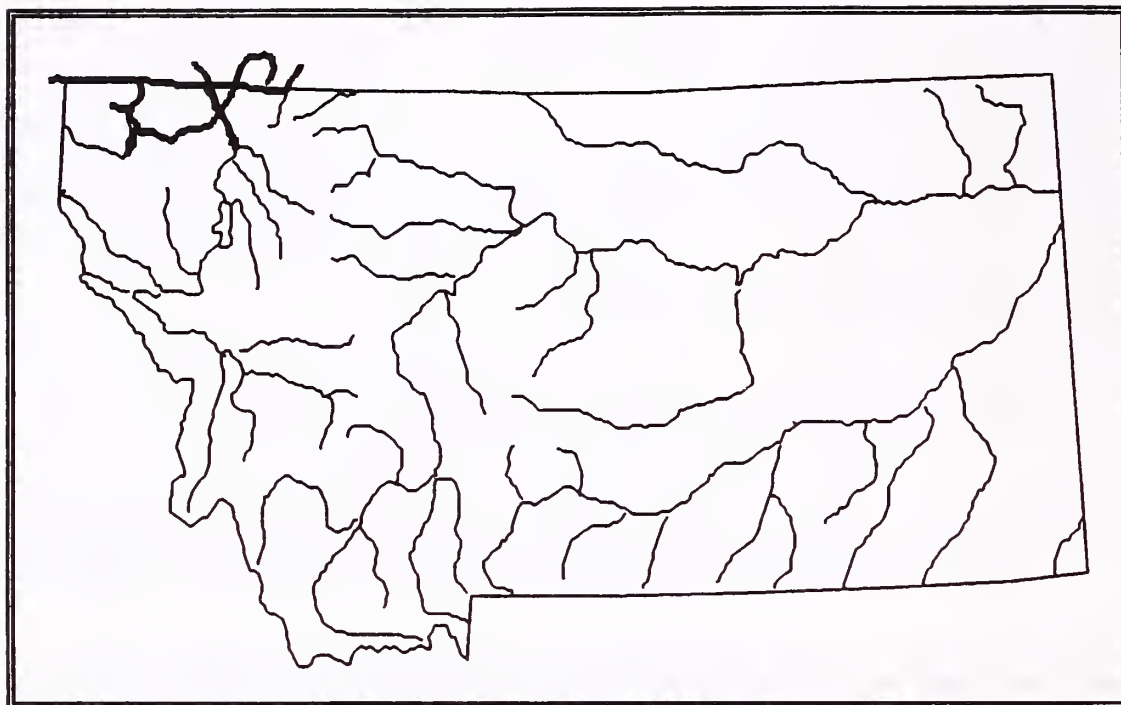


Figure 17. Map of Montana showing the routes taken by the Northwest Boundary Survey from 1857 to 1861.

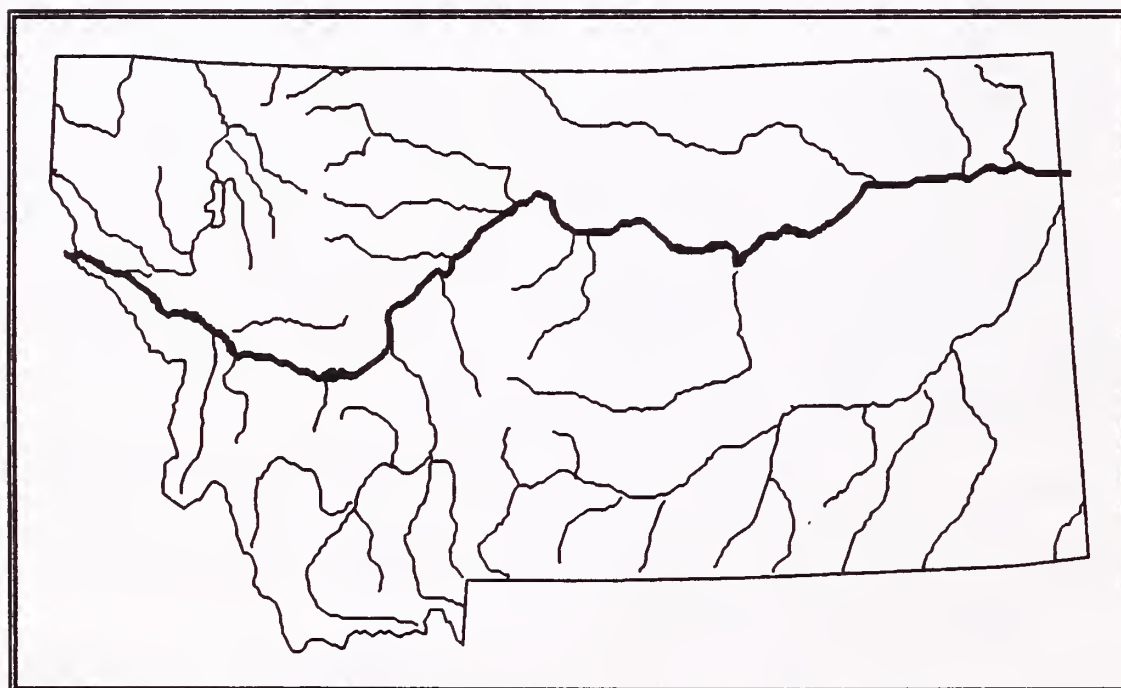


Figure 18. Map of Montana showing the route taken by the Blake Expedition during 1860.

Mullan, J. 1863. Report on the construction of a military road from Ft. Walla Walla to Ft. Benton. U.S. Govt. Print. Off. Washington, DC.

Mullan, J. 1863. Report of a reconnaissance from the Coeur d'Alene Mission to Thompsons's prairie....thence across the mountain to the Bitter Root River...and over the high divide to the Ten-Mile prairie, of the Couer d'Alene River. Report on the Construction of a Military Road From Fort Walla-Walla to Fort Benton. by Cap. John Mullan. Washington, DC.

Mullan, J. 1865. Miners' and Travelers' guide to Oregon, Washington, Idaho, Montana, Wyoming, and Colorado via the Missouri and Columbia Rivers accompanied by a general map of the mineral regions of the northern sections of the Rocky Mountains. Wm. M. Franklin, New York.

Yellowstone Expedition, 1863:

The Yellowstone expedition of 1863 was led by James Stuart for the purpose of scouting a wagon road down the Yellowstone River to the mouth of the Bighorn River (Figure 19). A secondary objective was to explore the Yellowstone and Bighorn Rivers for gold. During the first half of the expedition, Stuart recorded a considerable amount of general natural history information relating to wildlife and vegetation of the region. In contrast to Osborne Russell's observations, bison were not encountered until about the Billings area and only one grizzly bear was seen. Shortly after reaching the mouth of the Bighorn River, the expedition came under continuous attack from Indians and the remainder of the expedition was a desperate flight south into Wyoming.

Brown, M.H. 1969. The plainsmen of the Yellowstone: A history of the Yellowstone Basin. Bison Books, Univ. of Nebraska Press, Lincoln.

Stuart, J. 1902. The Yellowstone expedition of 1863. Contributions to the Historical Society Montana. vol 1, 2nd ed. Independent Publishing Company, Helena, MT. 162-179.

DeLacy Expedition, 1863:

This expedition explored the upper south Snake River up to what was to become Yellowstone National Park. The expedition left from the Beaverhead Valley, crossed the continental Divide at the head of Red Rock Creek, and proceeded to the Snake River. They spent a considerable amount of time on the Firehole and Madison Rivers within the Park prospecting for gold. They then descended the Madison River and proceeded back to Virginia City. Although the purpose of the expedition was for gold exploration, some natural history notes were recorded by DeLacy in his

journal. DeLacy went on to publish two early maps of Montana.

DeLacy, W.W. 1902. A trip up the south Snake River in 1863.
In: Contributions to the Historical Society of Montana, vol
I, 2nd ed. Independent Publishing Co. and Rocky Mountain
Publishing Co., Helena, MT.

Powder River Campaigns and Sawyers Wagon Road Expedition, 1865:

The Powder River Campaigns were an attempt by the U.S. Army to punish plains Indians for a series of attacks on white settlers. The orders were not to receive overtures of peace and submission from the Indians but to attack and kill every male over 12 years of age. This was a well supplied military expedition with over 2,000 men. The goal was to proceed north from Fort Conners at the headwaters of the Powder River in Wyoming and engage the Indians on the lower Tongue and Powder Rivers. Coinciding with this operation was a wagon train, headed by James A. Sawyer, scouting a road route from Nebraska to Virginia City, Montana. The plan was for the army to engage the Indians while the wagon train passed through hostile territory. There are several independent accounts of this entire operation, none of which have much natural history information outside of comments on amount of grass available for forage and amount of timber along the river bottomlands. It is important to note that the army's operation along the Powder River was nearly a complete failure due, in part, to bison having previously eaten all the grass. The condition of the Army's horses and mules rapidly deteriorated from lack of forage and over 600 horses and mules died during a two day period in an early September storm. Figure 20 shows the routes taken by this expedition.

Brown, M.H. 1969. The plainsmen of the Yellowstone: A history of the Yellowstone Basin. Bison Books, Univ. of Nebraska Press, Lincoln.

Hafen, L.R., A.N. Hafen, eds. 1961. Powder River Campaigns and Sawyers Expedition of 1865. The Far West and Rockies Historical Series, 1820-1875. Arthur A Clark Co., Glendale, CA, 396 pp.

Mathews Expedition, 1860s:

Alfred Mathews was an artist who traveled to Montana on a river steamboat up the Missouri River to Fort Benton. He proceeded up river from Fort Benton to the Three Forks, sketching scenes as he went. He returned back east with his drawings and assembled them into a portfolio of lithographs which he sold for \$18.00 each in 1868. Each of the scenes has a brief written account of the general area and contains some natural history information.

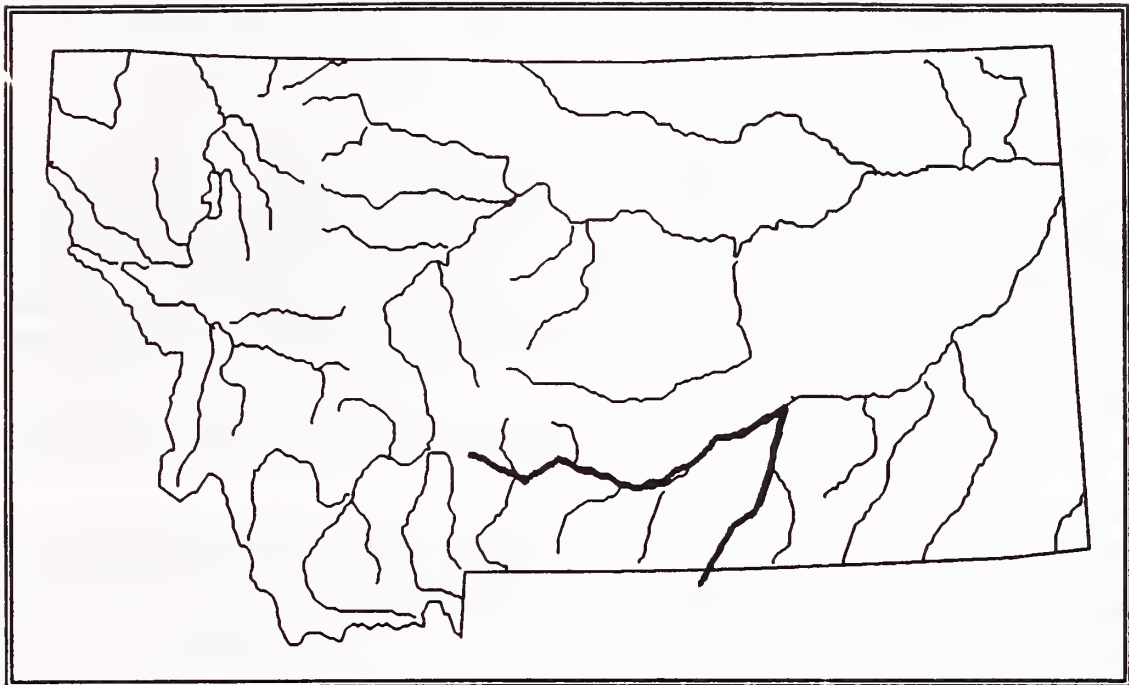


Figure 19. Map of Montana showing the route taken by the Yellowstone Expedition during 1863.

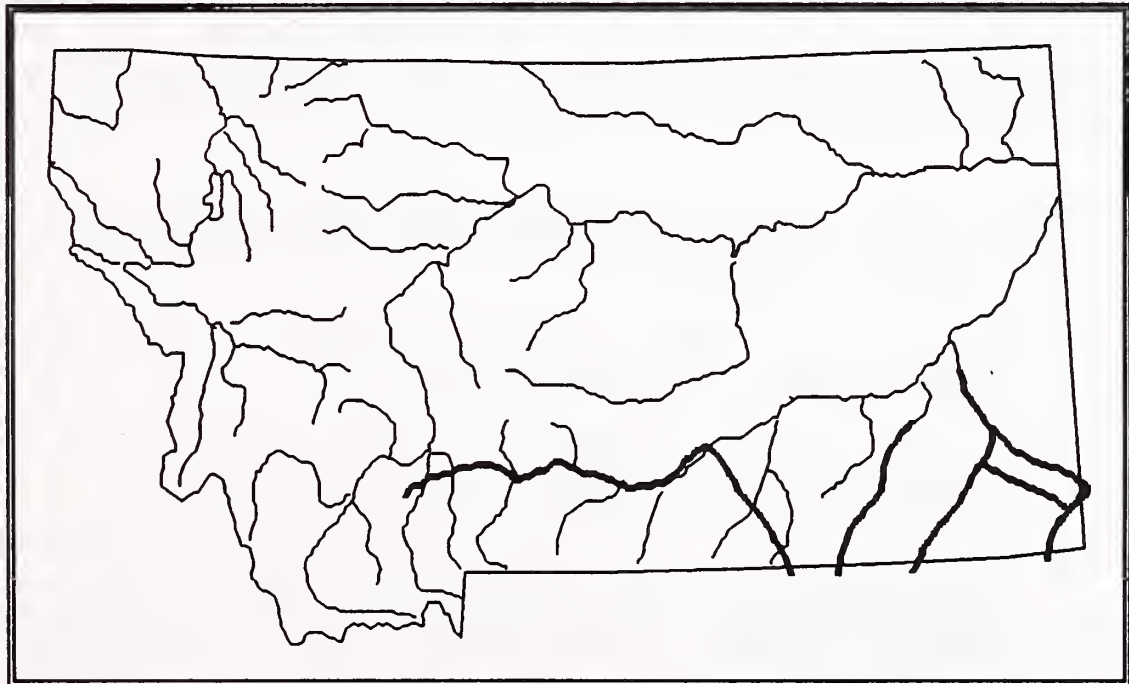


Figure 20. Map of Montana showing the routes taken by the Powder River Campaigns and the Sawyers Wagon Road Expedition during 1865.

Mathews, A.E. 1868. Pencil sketches of Montana...31
lithographic plates. New York. published by the author. 95
pp. [This document is available at the Montana Historical
Society Library in Helena]

Peter Koch, 1869-1870:

Koch spent a summer and winter at the mouth of the
Musselshell River as a woodhawk and wolfer. After concluding his
work along the Missouri River, he traveled to Helena. Koch kept
a journal detailing his work, travels, and observations of
wildlife. His son summarizes much of the wildlife observations
in a Journal of Wildlife Management article on the early history
of big game in Montana.

Koch, E. 1941. Big game from early historical records. J.
Wildl. Manage. 5:357-70.

Koch, P. 1929. Journal of Peter Koch. The Frontier, Missoula,
MT., Vol. 9, No. 2, January 1929.

Folsom-Cook Expedition, 1869:

This was the first of a series of six expeditions into what
was to become Yellowstone National Park. This was a privately
funded expedition and consisted of David E. Folsom, Charles W.
Cook, and William Peterson. The expedition started near the
Three Forks of the Missouri, crossed Bozeman Pass, ascended the
Yellowstone River to Yellowstone Lake, and then returned to
Virginia City by following the Madison River. The men kept a
journal of their observations from which Folsom wrote an
excellent article. This journal has been reconstructed by a
later author.

Brown, M.H. 1969. The plainsmen of the Yellowstone: A history
of the Yellowstone Basin. Bison Books, Univ. of Nebraska
Press, Lincoln.

Chittenden, H.M. 1985. The Yellowstone National Park. The
Robert Clark Co., Cincinnati, OH.

Folsom, D.E. 1894. Folsom-Cook exploration of the upper
Yellowstone in the year 1869. St. Paul, MN.

Haines, A.L. 1965. The valley of the upper Yellowstone: An
exploration of the headwaters of the Yellowstone River in
the year 1869. The journal of Charles W. Cook, David E.
Folsom, and William Peterson. Univ. of Oklahoma Press,
Norman. 80 pp [This book contains an excellent bibliography
detailing the sources for the reassembled journal]

Schullery, P. and L Whittlesey. 1992. The documentary record of

wolves and related wildlife in the Yellowstone National Park area prior to 1882. Pages 1-4 to 1-174 in Varely, J.D. and W.G. Brewster, eds., *Wolves for Yellowstone?* A report to the United States Congress, Volume IV research and analysis. National Park Service, Yellowstone National Park, WY. [This report is a definitive account of wildlife and habitat conditions in the Park prior to 1882. It contains detailed summaries of all visitors to the Park area during this time period who left a written record. The bibliography of this publication contains over 220 citations. It is highly recommended that anyone desiring information about the early history of the Yellowstone Park area obtain a copy of this report. (Our report only includes summaries of the major expeditions to Yellowstone.)]

Washburn-Doane Expedition, 1870:

This was the second in a series of expeditions to what was to become Yellowstone National Park. This expedition was headed by Henry D. Washburn and Lieutenant Doane. It departed from Fort Ellis, crossed the Bozeman Pass and ascended the Yellowstone River to Yellowstone Lake where they explored the geyser basins. Lieutenant Doane prepared an excellent report of their explorations. As a result of this report, and the effort of Nathaniel P. Langford, Cornelius Hedges, Samuel T. Hauser, and Washburn, Congress started legislation in 1871 to declare this region our nation's first national park.

Bonney, O.H., L. Bonney. 1970. *Battle drums, and geysers; the life and journals of Lt. Gustavus Cheyrey Doane, soldier and explorer of the Yellowstone, and Snake River regions.* Sage Books, Chicago. 622 pp.

Brown, M.H. 1969. *The plainsmen of the Yellowstone: A history of the Yellowstone Basin.* Bison Books, Univ. of Nebraska Press, Lincoln.

Chittenden, H.M. 1985. *The Yellowstone National Park.* The Robert Clark Co., Cincinnati, OH.

Doane, G.C. 1870. *Report on the Yellowstone expedition of 1870.* 41st Congress 3rd session, Senate Ex Doc. No. 51, Washington, DC.

Langford, N.P. 1905. *Discovery of Yellowstone Park. Diary of the Washburn expedition to the Yellowstone and Firehole River in the year 1870.*

Hayden's Yellowstone Park Expeditions, 1871, 1872, and 1877:

Following the initial discussion by Congress in early 1871 to designate the upper Yellowstone as a National Park, the U.S.

Geological Survey immediately developed plans to send an expedition to this region. This expedition, headed by Dr. F.V. Hayden, was fully staffed with naturalists, geologists, a landscape artist, and two photographers. Their route in 1871 followed very closely the route taken by the Washburn-Doane Expedition. Although the expedition did not explore much new country, it did expand greatly upon the information gathered by the Washburn-Doane Expedition. Unfortunately, journals kept by Captain Barlow and 200 photographs taken by Mr. Hine were subsequently lost in the Chicago fire. However, over 400 photographs by William Henry Jackson and paintings by Thomas Moran provide vivid documentation of the expedition and complement the expedition's report prepared under the supervision of Hayden. Hayden split his 1872 expedition into separate parties. Half of the expedition entered Yellowstone Park from the south starting from Fort Hall going through Pierre's Hole and then along the east side of the Tetons. The other half of Hayden's party (led by Hayden) proceeded out of Salt Lake City to Fort Ellis and hence on to Yellowstone following the previous year's route. Included in this party was the naturalist C. Hart Merriam who was only 16 years old at the time. Hayden also conducted a geologic expedition to the Park in 1878.

Brown, M.H. 1969. The plainsmen of the Yellowstone: A history of the Yellowstone Basin. Bison Books, Univ. of Nebraska Press, Lincoln.

Chittenden, H.M. 1985. The Yellowstone National Park. The Robert Clark Co., Cincinnati, OH.

Hayden, F.V. 1872. Fifth annual report of progress. U.S. Geological Survey of Montana and portions of adjacent territories. U.S. Govt. Print. Off., Washington, DC.

Hayden, F.V. 1878. Twelfth annual report of progress. U.S. Geological Survey of Montana and portions of adjacent territories. U.S. Govt. Print. Off., Washington, DC.

Jackson, C.S. 1947. William Henry Jackson. Picture maker of the Old West. Scribner.

Jackson, W.H. 1940. Time exposure. Putnams.

Jackson, W.T. 1942. Governmental exploration of the upper Yellowstone, 1871. Pacific Historical Review 11:188-189.

Poter, T.C. 1872. Catalogue of plants collected during the expedition to the headwaters of the Yellowstone River in 1871. Hayden Surv. 1871:477-498. Washington.

Jones Expedition, 1873:

Captain William Jones headed a military expedition to Yellowstone Park in 1873. The purpose of the expedition was to locate a military road from the Union Pacific Railroad in southern Wyoming to the Park. Included on his staff were naturalists and geologists which resulted in reports on insects (J.D. Putnam), plants (C.C. Parry) and geology (T. Comstock). It was during this expedition that Togwoheap Pass was discovered which opened up the southern portion of Yellowstone for future exploration.

Jones, W.A. 1875. Report upon the reconnaissance of northwestern Wyoming, including Yellowstone National Park, made in the summer of 1873. U.S. Govt. Print. Off. Washington, DC.

Parry, C.C. 1874. Botanical observations in western Wyoming. with notices of rare plants and descriptions of new species collected on the route of the Northwestern Wyoming Expedition under Capt. W.A. Jones. Amer. Nat. 8:9-14, 102-108, 175-180, 211-215

Lord Dunraven Expedition, 1874.

Lord Dunraven was a wealthy nobleman from Great Britain who led a most unusual and colorful life. Dunraven was inspired as a young boy by his uncle's tales of Sir George Gore's slaughter of wildlife on the American prairies and, at the age of 33, embarked on a sporting adventure to Yellowstone National Park. His account of the expedition is delightful reading and well illustrated but contains very little natural history information.

Dunraven, Earl of. 1967. The great divide, travels in the upper Yellowstone in the summer of 1874. Introduction by Marshall Sprague. A Bison Book, Univ. of Nebraska Press., Lincoln. 377 pp.

Dunraven, Earl of. 1876. The Great Divide. Chatto and Windus. Piccadilly, London.

Custer's Black Hills Expedition, 1874:

This was a large, well armed and supplied expedition led by General George Custer and was the first systematic exploration of the Black Hills region. Other attempts by small parties of explorers to enter the Black Hills usually ended in disaster such as experienced by Lord Gore. The Warren expeditions had previously attempted to explore the Black Hills but the Sioux effectively stalled that part of the expedition. Although Custer's expedition did not enter Montana, it traveled very near Montana's eastern border along the divide between the Little Missouri and Missouri Rivers. George Bird Grinnell served as

naturalist on this expedition to the Black Hills and his notes on the wildlife are excellent. The following year another large expedition, led by Walter Jenney and Henry Newton entered the Black Hills for the purpose of geologic and topographic exploration.

Custer, G.A. 1875. Report of the Chief of Army Engineers. in: Annual report of the Secretary of War. 43rd Cong., 2nd sess., H.R. Exec. Doc. I, Pt. II (1874-1875), Appendix KK: Preliminary report of reconnaissance to the Black Hill, St. Paul, MN., 7 Sept. 1874.

Jenney, W.P. 1876. The mineral wealth, climate, rainfall, and natural resources of the Black Hills of Dakota. 44th. Cong., 1st. sess., Sen Exec. Doc. 51.

McFarling, L. 1955. Exploring the northern plains, 1804-1876. Caxton. Caldwell, ID. [Reprint of Grinnell's report on the mammals.]

Newton, H. and W.P. Jenny. 1880. Report on the geology and resources of the Black Hills of Dakota, with Atlas. Washington, DC.

Ludlow-Grinnell Expedition, 1875:

This expedition was led by Captain Ludlow with George Bird Grinnell as its naturalist. This expedition followed the Carroll Trail from Fort Carroll on the Missouri River to Helena and then proceeded to Yellowstone National Park (Figure 21). Grinnell's report is an excellent documentation of wildlife and habitats encountered through this section of Montana. In addition, Grinnell had time for an excursion from Fort Carroll up to the Little Rocky Mountains and reported large numbers of bison and pronghorn in this area.

Grinnell, G.B. 1876. Report of a reconnaissance from Carroll, Montana to Yellowstone National Park and return. by William Ludlow, U.S. Govt. Print. Off. Washington, DC. Zoology 640-655.

Ludlow, W. 1876. Report on a reconnaissance from Carroll, Montana Terr. on the upper Missouri to the Yellowstone National Park and return, made in the summer of 1875. War Dept., Washington.

McFarling, L. 1955. Exploring the northern plains, 1804-1876. Caxton, Caldwell, ID.

Roberts Expedition, 1872:

Roberts and his co-workers charted the Missouri River to

assess its navigational potential from the Three Forks to the Great Falls during the summer of 1872. Roberts' journal contains some interesting natural history notes. Roberts calculated the flow of the Missouri River at the Three Forks in mid-July to be 8,533 cfs. He reported a ferryman as stating the river level was only about 8 inches above its lowest point.

Roberts, T.P. 1902. The upper Missouri River, from a reconnaissance made in 1872. Contributions to the Montana Historical Society. vol 1, 2nd ed. Independent Publishing Company, Helena, MT.

Charles A. Messiter, 1871-1872, 1882:

Messiter was an English sport hunter who made at least three trips into Montana. On his first trip, he hunted bison between the Milk and Missouri Rivers and on his second trip he hunted grizzly bears around the Snowy Mountains, killing 63 during the summer of 1872. Messiter also traveled down the Shields and Yellowstone Rivers. He was an observant hunter and recorded a great deal of information that gives some insight as to the wildlife situation in central Montana during the early 1870s. Messiter returned to central Montana in 1882 for a brief visit and concluded that cowboys and cattle made a poor substitute for Indians and bison.

Messiter, C.A. 1890. Sport and adventure among the North American Indians. R.H. Porter, London. 368 pp.

Northern Pacific Railroad Surveys, 1871-1873:

The Northern Pacific Railroad Surveys were brief reconnaissances across southern Montana and southern North Dakota over a three year period to determine the most feasible route between Bozeman and Bismarck. The surveys were directed by Colonel D.S. Stanley. The U.S. Army provided armed escorts for the surveyors and naturalists employed on this project. This armed escort totalled 1,900 men, and included Custer and the 7th calvary. Expeditions came from Fort Ellis in Montana and Fort Rice in North Dakota. The areas explored were along the Yellowstone River, north to the Musselshell River, between Fort Ellis and Glendive Creek (present site of Glendive), and then eastward into North Dakota (Figure 22). It was during the 1873 survey that ornithologist J. A. Allen served as the expedition naturalist. Allen was a careful observer of wildlife and habitat conditions found along the survey route and his notes are a valuable record of conditions in 1873. In addition to writing an exhaustive account of birds found on the expedition, Allen also noted mammals collected and seen on the expedition and went on to write a book on bison which contains some original observations

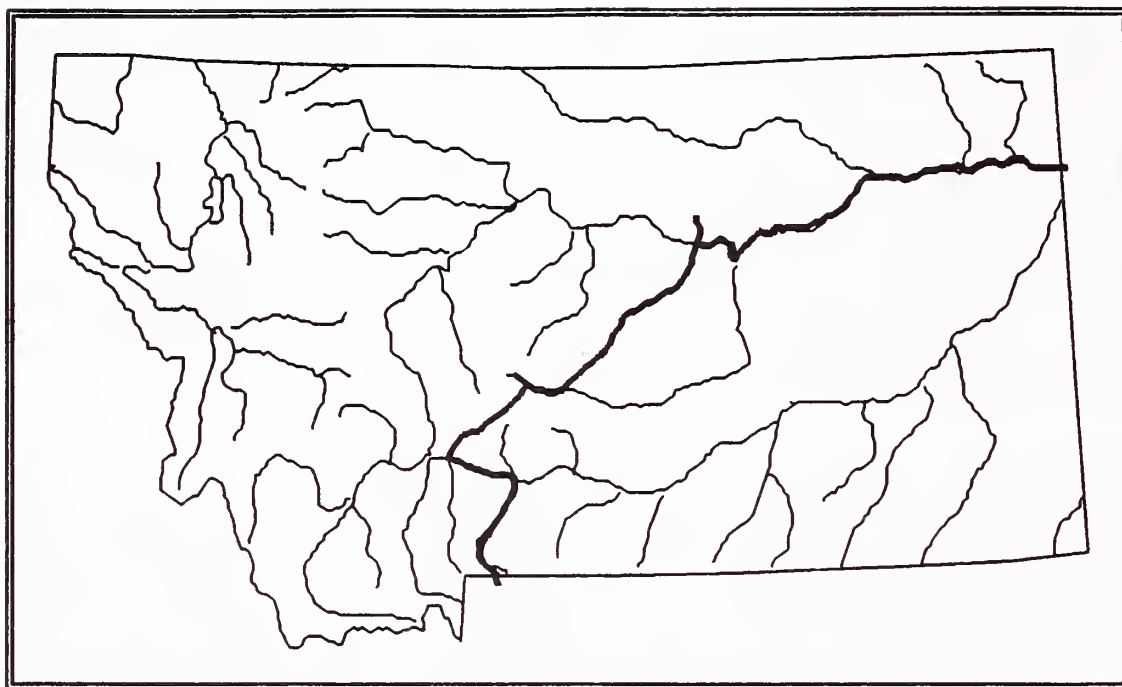


Figure 21. Map of Montana showing the route taken by Ludlow-Grinnell Expedition during 1875.

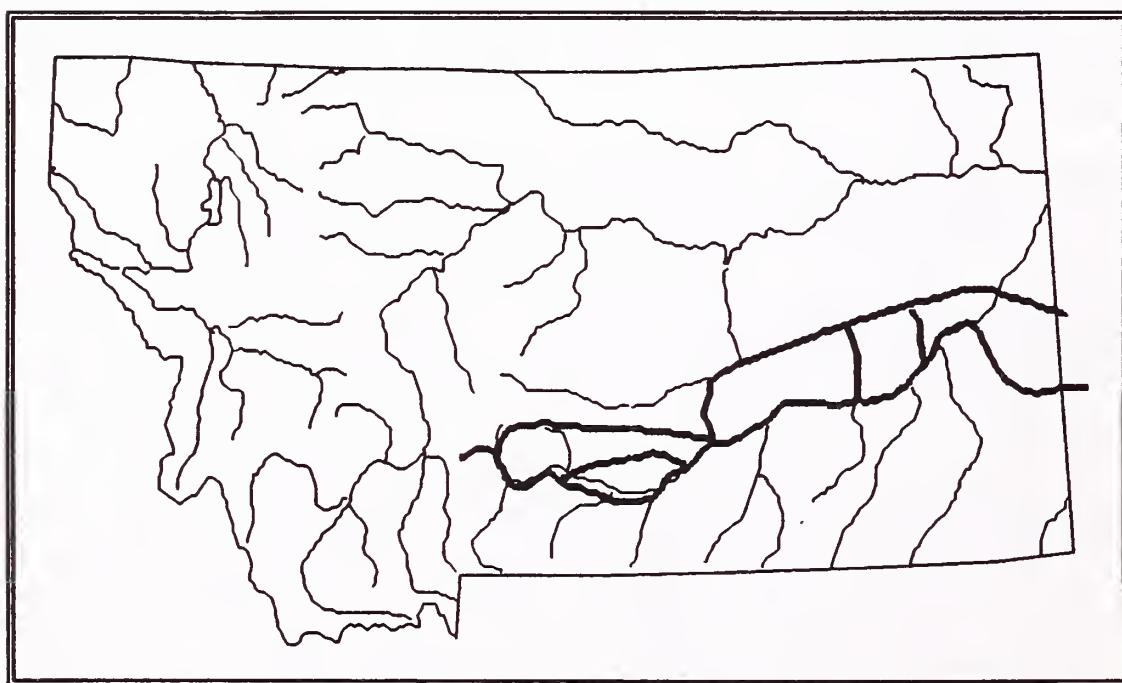


Figure 22. Map of Montana showing the routes taken by the Northern Pacific Railroad Surveys from 1871-1873.

of bison along the Musselshell River. Allen also noted a massive die-off of pronghorn during the summer of 1873 during which he estimated he saw nine dead animals for every live pronghorn.

Allen, J.A. 1874. Notes on the natural history of portions of the Dakota and Montana Territories, being the substance of a report to the Secretary of War on the collections made by the North Pacific Railroad Expedition of 1873, Gen. D.S. Stanley, Commander. Birds. Proc. Boston Soc. Nat. Hist. 27:3-68.

Allen, J.A. 1876. The American bisons, living and extinct. Memoirs of Comparative Zoology, at Harvard College, Cambridge, MA., Vol.4, No. 10.

Northern Boundary Commission, 1873-1874:

The Northern Boundary Commission survey charted the United States/Canadian border from the Red River in North Dakota to the Continental Divide in Montana. Ornithologist Dr. Elliott Coues was surgeon/naturalist for the expedition both years. In 1873, Coues confined his work to the 49th parallel between the Red and Souris Rivers in North Dakota. The following year he left from Fort Buford, at the mouth of the Yellowstone River, and traveled northwesterly to the 49th parallel, reaching it at Frenchman River around 4 July 1874 (Figure 23). The remainder of the summer he collected and observed wildlife as he traveled west along the 49th parallel up to Waterton Lake, at which point he turned southeast to Fort Benton, and then down the Missouri River. Coues' ability to observe and record aspects of natural history were unsurpassed and his observations of this region are extremely valuable.

Coues, E. 1874. Birds of the Northwest. [Does not include specific information on Montana, but gives excellent habitat and life history information on specific bird species in 1874.]

Coues, E. 1874. On the nesting of certain hawks, etc. Amer. Nat. 8:596-603. [Observations on the nesting of the ferruginous hawk, and prairie and peregrine falcons along the Milk River.]

Coues, E. 1875. On breeding of certain birds. Amer. Nat. 9:75-78.

Coues, E. 1875. The prairie gopher. Amer. Nat. 9:147-156. [This paper deals with the Richardson's ground squirrel in Montana. Among other things, Coues notes that they scavenged extensively on bison carcasses.]

Coues, E. 1877. Fur bearing animals: a monograph of North

American Mustelidae. Dept. of Interior. USGS Misc. Publ. 8:149-153. [Reports on a ferret taken along the Milk River.]

Coues, E. 1878. Field notes on birds observed in Dakota and Montana along the forty-ninth parallel during the seasons of 1873 and 1874. Article XXV. Pages 545-661 in Bull. of the U.S. Geological and Geographical Survey Vol. IV. U.S. Govt. Print. Off., Washington.

Dawson, G.M. 1875. Report on the geology and resources of the region in the vicinity of the forty-ninth parallel, from the Lake of the Woods to the Rocky Mountains with lists of plants and animals collected and notes on the fossils. North American Boundary Commission. 1872-1875.

Jordan, D.S. 1891. Report on the collection of fishes made by Dr. Elliott Coues U.S.A. in Dakota and Montana during the seasons of 1873 and 1874. Bull. U.S. Geol. and Geog. Surv. of the Territories (F.V. Hayden in charge), 4(4):777-799.

Twinning, W.J. 1877. Survey of the northern boundary of the United States from the Lake of the Woods to the summit of the Rocky Mountains. Senate Ex. Doc. 41, 44th Congress, 2nd session.

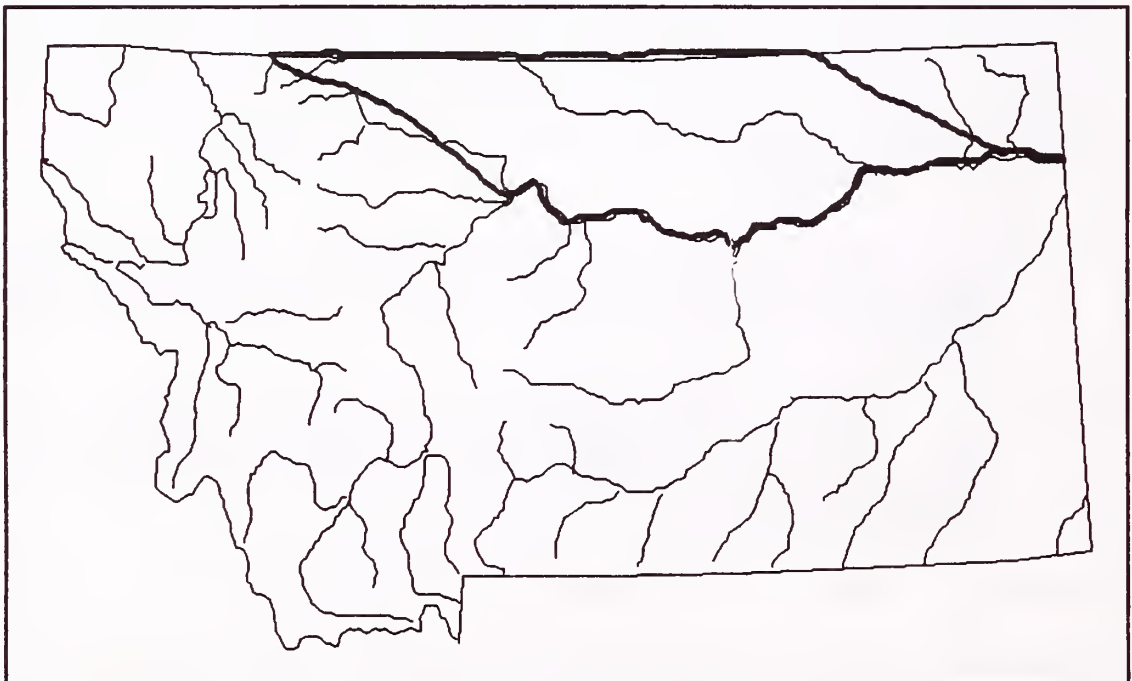


Figure 23. Map of Montana showing the route taken by the Northern Boundary Commission Survey during 1874.

Yellowstone Wagon Road Expedition, 1874:

This was a quasi-military expedition departing from Bozeman and proceeding along the Yellowstone River Valley for the purpose of determining the suitability of the Yellowstone River for navigation and scouting a wagon road. This expedition was headed by Addison M. Quivey and his journal contains some interesting natural history notes. This expedition was suppose to travel down the Yellowstone River to the mouth of the Tongue River, but turned around at Rosebud Creek and was not able to reach its goal because bison had eaten all the grass in this area earlier in the year.

Brown, M.H. 1969. The plainsmen of the Yellowstone: A history of the Yellowstone Basin. Bison Books, Univ. of Nebraska Press, Lincoln.

Quivey, A.D. 1966. The Yellowstone expedition of 1874. Contributions to the Historical Society of Montana. 268-284.

Military Campaigns and Exploration, 1875-1883.

From 1875-1883, the U.S. Army made a concerted effort to subdue indigenous people and explore portions of Montana. During this period, they crossed vast areas of Montana. In the company of some of these operations were surgeon/naturalists and possibly some professional biologists. One surgeon/naturalist was Valery Havard. An excellent botanist and keen observer, he traveled throughout eastern Montana along the Yellowstone, Musselshell, Missouri, and Milk Rivers during 1877 identifying plants and describing plant communities and their distribution as he went. Havard was again in Montana with a military operation in 1879. Also traveling with a military expedition up the Yellowstone River to the Billings area in 1875, were several Smithsonian Institute professors on the steamboat Josephine, but at present we have not located the results of their work. Many of the military officers kept journals that give general natural history descriptions of the areas they traveled through. Some of these include Captain William Stanton, who in 1876, describes the terrain, mentions beaver dams on the rivers and creeks, and states that game was scarce along the Rosebud and Tongue River drainages. Lieutenant Hare traveled between the Yellowstone and Missouri Rivers and found large herds of bison in some areas as well as many pronghorn, mule and white-tailed deer. Colonel Nelson Miles and Lieutenant Long also have notes covering similar subjects in the same areas.

Annual report of chief of engineers, U.S. Army for 1878. Series 1846. Appendix QQ. pp 1672 - 1689.

Forsyth, J.W. and F.D. Grant. 1875. Report of an expedition up

the Yellowstone River: made in 1875. War Dept., U.S. Govt. Print. Off., Washington, DC.

Havard, V. 1878. Botanical outlines of the country marched over by the Seventh United States Cavalry during the summer of 1877. in: Annual report of chief of engineers, U.S. Army for 1878. Vol. II, part III. Series 1846. Appendix QQ pp. 1681-1687. U.S. Govt. Print. Off..

Havard, V. 1880. List of plants found on the plains of western Dakota and eastern Montana during the summer of 1877 and spring 1879. Annual report of chief of engineers, U.S. Army for 1880. appended SS pp. 1-20. Washington.

McChesney, C.E. 1879. Report on the mammals and birds of the general region of the Bighorn River and Mountains of the Montana Territory. Report of the Chief of Engineers, U.S. Army. Appendix SS3. [The only early list of birds from this section of the State which also includes birds found in the mountains.]

McFarling, L. 1955. Exploring the northern plains, 1804-1876. Caxton. Caldwell, ID.

Sheridan, Lt. Gen. D.W. 1882. Report of an exploration of parts of Wyoming, Idaho, and Montana in August and September 1882. Washington, DC.

Doane Expedition, 1876:

The Doane expedition was a small military exploration through Yellowstone National Park during the fall and winter of 1876. Doane recorded general natural history notes including observations of elk, grizzly bears, waterfowl, and trout.

Doane, G.C. 1877. Expedition of Lt. G.C. Doane; Ft. Ellis, Montana to Ft. Hall, Idaho, Oct 11, 1876 to January 4, 1877. Natural History Assoc., Moose, Wyo. 1960. 42 pp.

Edward Drinker Cope, 1874-1877.

Cope, who was owner and senior editor of *American Naturalist*, was in Montana on two occasions while conducting paleontological research with the Wheeler Surveys from 1874-1877. At least one publication resulted from his trips to Montana.

Cope, E.D. 1879. A contribution to the zoology of Montana. Amer. Nat. 13:432-441.

Lanham, U.N. 1973. The bone hunters. Columbia Univ. Press. New York.

Wheeler, G.M. 1889. Report upon United States Geographical Surveys West of the one hundreth meridian. U.S. Govt. Print. Off., Washington, DC.

Northern Pacific Railroad Survey, 1880-1883:

Prior to construction of the Northern Pacific Railroad across Montana there apparently was additional survey work. We located two publications resulting from the survey but were unable to find additional information on the expedition.

Leiberg, J.B. 1884. Notes on the flora of western Dakota and eastern Montana adjacent to the Northern Pacific Railroad. Bot. Gaz. 9:103-107; 126-129.

Newberry, J.S. 1884. Notes on the geology and botany of the country bordering the Northern Pacific Railroad. Ann. N.Y. Acad. Sci. 3:242-270.

Hornaday Expedition, 1886:

When word reached Washington, DC. of the total failure of the 1883-1884 winter bison hunt, the Smithsonian Institute decided to send an expedition to Montana for the purpose of securing specimens for the U.S. National Museum. William T. Hornaday headed this expedition which traveled to Montana on two occasions in 1886 for the sole purpose of collecting up to 100 of the surviving bison. Some bison were reported to remain in the Judith Basin, Big Dry Creek, and the upper Powder River areas. After much effort, scattered small groups of bison were located and 23 were collected over about a three month period about 80 miles northwest of Miles City. These surviving animals were reported to be as wild as deer and as wary as an old wolf. Hornaday also noted that cowboys were killing the remaining bison as opportunity presented and rationalized it was better that he should collect them for the museum than be wasted by cowboys. In addition to this account, Hornaday's report contains several firsthand accounts of the final days of the bison in Montana which he obtained from unemployed bison hunters. Not related to this expedition is the book by Brown which also has original accounts of the demise of bison in Montana.

Brown, M.H. 1969. The plainsmen of the Yellowstone: A history of the Yellowstone Basin. Bison Books, Univ. of Nebraska Press, Lincoln.

Hornaday, W.T. 1887. Buffalo hunt.

Hornaday, W.T. 1889. The extermination of the American bison, with a sketch of its discovery and life history. Pages 367-548. in: Part 2[1889]. Rep. U.S. Natl. Mus., 1886-87.

Garfield University Expedition, 1889:

This was a plant collecting expedition headed by M.A. Carleton from Manhattan, Kansas. He and three other people collected plants in the Rocky Mountains from Colorado to Montana. The month of August was primarily spent collecting in Montana and Yellowstone National Park.

Carleton, M.A. 1893. List of plants collected by the Garfield University expedition of 1889. Trans. Kansas Acad. of Sci. 13:50-57.

Clinton Hart Merriam and Vernon Bailey, 1890:

Although this expedition did not enter Montana, it is included here because it is the first regional biological survey with quantitative results conducted near Montana. Merriam and Bailey spent the summer and fall of 1890 in southcentral Idaho (Blackfoot, Arco, Big Lost River, Birch Creek, Salmon River, Lemhi River, Sawtooth Mountains, Salmon Mountains, Snake River) documenting bird and mammal abundance and distribution. Merriam traveled through portions of this area in 1872 when only 16 years old on the Hayden Expedition. He compares his observations of 1890 with what he saw 18 years earlier. He also makes comparisons between their 1890 observations and Townsend's journal covering this portion of Idaho.

Merriam, Clinton Hart, V. Bailey. 1891. Biological reconnaissance of south-central Idaho. U.S. Govt. Print. Off.

Barton W. Evermann, 1890-1891:

Evermann was the first to conduct limnological studies of Montana's streams and lakes. He provides an excellent summary of physical and natural history features of streams and lakes in western Montana. His surveys covered the Clark Fork and Snake Rivers west of the Divide and the Jefferson, Madison, Gallatin, upper Missouri, and upper Yellowstone Rivers east of the Divide. His 1891 paper has photos and maps of the areas covered by the survey.

Evermann, B.W. 1891. A reconnaissance of the streams and lakes of western Montana and northwestern Wyoming. Bull. U.S. Fish Comm.

Evermann, B.W. 1892. Description of a new sucker *Pantosteus jordani* from the upper Missouri Basin. Bull. U.S. Fish Comm. 12:51-56.

Evermann, B.W. and U.O. Cox. 1896. A report upon the fishes of the Missouri River basin. U.S. Comm. of Fish and Fisheries, (1894) Part XX, p. 325-429.

Gilbert, C.H. and B.W. Evermann. 1895. A report upon investigations in the Columbia River Basin with descriptions of four new species of fishes. Bull. U.S. Fish Comm. (1894), 14:169-208.

Morton Elrod:

Elrod was a professor of zoology at the University of Montana and he also established the University's biological station at Yellowbay on Flathead Lake. His interests in zoology were diverse and he conducted many studies on western Montana wildlife. We have listed a few of his earlier publication here.

Elrod, Morton John. 1908. The Flathead buffalo range: a report to the American Bison Society of an inspection of the Flathead Indian Reservation, Montana, for the purpose of selecting a suitable location for a national buffalo range. American Bison Society.

Elrod, M.J. 1901. Limnological investigations at Flathead Lake, Montana, and vicinity, July 1899. Trans. Amer. Microsc. Soc. 22:63-80. [This paper has old photos of Flathead Lake and Valley and gives results of water samples taken in the summer of 1899 from Flathead Lake]

Elrod, M.J. 1902. Biological reconnaissance in the vicinity of Flathead Lake

Elrod, M.J. 1906. Butterflies of Montana with keys for determination of species. MSU B.30, Biol Ser. no. 10. Missoula. 174 pp [Gives detailed descriptions, keys, and plates of butterflies in Montana. Also where they were found and collected from].

Elrod, M.J. 1904. Birds in their relation to agriculture. Reprint from 2nd ann. rept. Montana State Brd. of Farmers Institutes, pp. 173-190; 197-208. Univ. of Montana, Missoula.

Elrod, M.J. The Montana National Bison Range. Univ. of Montana.

Elrod, M.J. 1912. The lakes of Glacier National Park. Am. Microscopical Society.

Elrod, M.J. The lakes of Glacier National Park I. Avalanche Lake.

Elrod, M.J. The lakes of Glacier National Park II. Lake Louise.

Thomas Blankinship:

Blankinship was a botanist at Montana State College (University) at Bozeman from 1898-1905. He collected plants around the State and published papers dealing with Montana plants. His 1905 paper is an excellent summary of botanical investigations in Montana during the 19th Century.

Blankinship, J.W. Weeds of Montana. Mont. Agr. Exp. Sta. Bull. 30 1-70.

Blankinship, J.W. 1902-1904. Report of the botanist. Bull Mont. Agr. Exp. Sta. 32:38-44, Ann. Rep. Mont. Exp. Sta. 9:68-79, and 10:64-68.

Blankinship, J.W. 1905. A century of botanical exploration in Montana. Montana Agricultural College Scientific Studies 1:3-31.

Blankinship, J.W. 1905. Supplement to the flora of Montana. Montana Agricultural College Scientific Studies 1:33-109.

James A. Henshall:

Henshall apparently conducted some early fish studies in Montana. Two of his publications are listed below.

Henshall, J.A. 1894. List of the fishes of Montana. Univ. of Montana Bull. #34. Missoula. [Gives detailed descriptions of species of fish, habits, and habitats with general notes on locations].

Henshall, J.A. 1907. Culture of the Montana grayling. Bureau of fisheries document #628. 7 pp. [Brief history (1800s) of grayling, with species description, habits, habitat and locations found in Montana. Also has information on propagation].

Ewen and Evelyn Cameron, 1894-1928:

The Camerons lived on a ranch near Terry, Montana. Ewen was an ornithologist and Evelyn was an excellent photographer. During the 1890s and early 1900s, this couple recorded information on birds in Custer and Dawson Counties, and provided extensive photo documentation of the area.

Cameron, E.S. 1891. Letter in regard to migration of Swainson's hawks in Montana. Ibis, 6th series, III:623-625.

Cameron, E.S. 1900. On the migration of phalaropes in Montana. Ibis, 7th series, VI:67-70.

Cameron, E.S. 1905. Sabine's gull in Montana. Auk 22:76.

- Cameron, E.S. 1905. Nesting of the golden eagle in Montana. Auk 22:158-167.
- Cameron, E.S. 1905. Hoary redpoll in Montana. Auk 22:313.
- Cameron, E.S. 1906 Nesting of the great blue heron in Montana. Auk 23:252-262.
- Cameron, E.S. 1907-1908. The birds of Custer and Dawson counties, Montana. Auk 24:241-270, 389-407, 25:39-56.
- Cameron, E.S. 1908. Observations on the golden eagle in Montana. Auk 25:251-268.
- Cameron, E.S. 1908. Changes of plumage in *Buteo swainsoni*. Auk 25:468-471.
- Cameron, E.S. 1913. Notes on the Swainson's hawk ... in Montana. Auk 30:167-176.
- Cameron, E.S. 1914. The ferruginous rough-leg ... in Montana. Auk 31:159-167.
- Lucy, D.M. 1990. Photographing Montana: the life and work of Evelyn Cameron. Alfred A. Knopf, Inc. [This book contains the photos and diary of Evelyn Cameron]

John Leiberg and Horace Ayers:

Leiberg and Ayers were foresters who conducted some of the first forest inventories in Montana. Their reports are detailed accounts of the timber resources of specific areas.

- Ayers, H.B. 1900. Flathead Forest Reserve. 20th Ann. Rep. U.S. Geol. Surv. 5:245-316. Washington, DC.
- Ayers, H.D. 1901. Lewis and Clark Forest Reserve, Montana. 21st Ann. Rep., Part 5. U.S. Dept. of the Interior, Geological Survey; 27-80. Washington, DC.
- Leiberg, J.B. 1897. General report on a botanical survey of the Coeur d' Alene Mountains in Idaho during the summer of 1895. U.S. Govt. Print. Off. Contributions from the U.S. National Herbarium vol. 5, no. 1, 85 pp.
- Leiberg, J.B. 1898. Forestry of the Bitterroot Reserve. U.S. Geol. Surv. 19th Ann. Rep. 5:253-282.
- Leiberg, J.B. 1899. The Priest River Forest Reserve. U.S. Govt. Print. Off. pp. 217-252.
- Leiberg, J.B. 1900. The Bitterroot Forest Reserve. U.S. Govt.

Print. Off. pp. 317-410.

Leiberg, J.B. 1904. Little Belt Mountains Forest Reserve, Montana and the Belt Mountains quadrangle. Prof. Pap. No. 30 Denver, CO. U.S. Dept. of the Int., Geol. Sur. 1-75.

Leiberg, J.B. 1904. Forest conditions in the Absaroka division of the Yellowstone forest reserve, Montana, and the Livingston, and Big Timber quadrangles. U.S. Govt. Print. Off. Geological Survey Professional Paper. 148 pp.

Vernon and Florence Bailey:

The Baileys were biologists for the U.S. Bureau of Biological Survey. Vernon, a mammalogist, and Florence (C. Hart Merriam's sister), an ornithologist, traveled extensively throughout the western United States conducting general wildlife surveys. Their publications relating to Montana are included here because they contain observations dating back to the late 1800s.

Bailey, V. 1926. A biological survey of North Dakota. USDA Bur. Biol. Surv. North American Fauna, 49:1-226.

Bailey, V.O. 1930. Animal life of Yellowstone National Park. Thomas.

Bailey, V. and F.M. Bailey. 1918. Wild animals of Glacier National Park. U.S. Govt. Print. Off., Washington, DC. 210 pp.

SECTION TWO

TABULAR SUMMARY OF EXPLORERS AND EXPEDITIONS
IN AND NEAR MONTANA
DURING THE 19TH CENTURY

Table 1. A summary of explorers or expeditions entering or approaching (denoted by *) Montana during the 1800s with at least some recorded natural history information.

EXPLORER OR EXPEDITION	DATES	PURPOSE OF EXPEDITION	GENERAL NATURAL HISTORY NOTES ¹	SCIENTIFIC STUDIES
Leraye/Pardo	1802	fur trade	?	no
Lewis & Clark	1804-06	exploration	good	yes
LaRocque	1805	fur trade	fair	no
Hunt	1811	fur trade	?	no
Nuttall/ Bradury*	1811	scientific	fair	yes
Thompson	1808-12	fur trade	fair	no
Cox	1812	fur trade	poor	no
McKenzie	1818-21	fur trade	poor	no
Ross	1819-24	fur trade	poor	no
Ashley/Henry	1806-25	fur trade	poor	no
Ogden	1825	fur trade	fair	no
Douglas*	1824-33	scientific	good	yes
Wilhelm	1830	scientific	lost	yes
Maximilian	1833-34	scientific	good	yes
Ferris	1831-34	fur trade	fair	no
Work	1824-32	fur trade	fair	no
Catlin	1832	artistic	good	no
Wyeth	1833	fur trade	fair	yes
Russell	1833-43	fur trade	good	no
Wilkes*	1838-42	scientific	good	yes
DeSmet	1840-70	religious	fair	yes
Audubon	1843	scientific	good	yes
Geyer	1843	scientific	good	yes
Burke	1845	scientific	poor	yes
Palliser	1847-48	hunting	good	no

Table 1. Cont.

EXPLORER OR EXPEDITION	DATES	PURPOSE OF EXPEDITION	GENERAL NATURAL HISTORY NOTES	SCIENTIFIC STUDIES
Denig/Chardon/Larpenteur	extended period	fur trade	fair	no
Culbertson	1850	scientific	good	yes
Kurz	1851-52	artistic	fair	no
Gore	1854-56	hunting	lost	no
Stevens	1853-54	exploration	good	yes
Hayden	1854-55	paleontology	good	yes
Warren	1855-57	exploration	good	yes
Raynolds	1859-60	exploration	good	yes
British N.A.	1857-60	exploration	good	yes
Northwest Boundary	1857-61	exploration	good/ lost	yes
Stuart	1875-1916	mining ranching	poor	no
Mullan/Blake	1859-60	military	good	yes
Yellowstone	1863	exploration	fair	no
DeLacy	1863	exploration	poor	no
Powder River Campaigns	1865	military	poor	no
Mathews	1860s	artistic	fair	no
Koch	1869-70	fur trade	fair	no
Folsom/Cook	1869	exploration	fair	no
Washburn/Doane	1870	exploration	fair	no
Hayden	1871-72	scientific	good	yes
Messiter	1871-72	hunting	good	no
N. Pacific Railroad	1871-73	exploration	good	yes

Table 1. Cont.

EXPLORER OR EXPEDITION	DATES	PURPOSE OF EXPEDITION	GENERAL NATURAL HISTORY NOTES	SCIENTIFIC STUDIES
Roberts	1872	scientific	fair	yes
Jones	1873	exploration	good	yes
N. Boundary Commission	1873-74	exploration scientific	good	yes
Custer*	1874	exploration	good	yes
Dunraven	1874	hunting	fair	no
Yellowstone Wagon Rd.	1874	exploration	fair	no
Ludlow/Grinnell	1875	scientific	good	yes
Military Campaigns	1875-77	military	poor- good	yes
Doane	1876	exploration	fair	no
N. Pacific Railroad	1880-83	exploration	good	yes
Hornaday	1886	scientific	good	yes
Garfield Univ.	1889	scientific	poor	yes
Merriam/Bailey	1890	scientific	good	yes
Evermann	1890-91	scientific	good	yes
Cameron	1900s	scientific	good	yes
Leiberg/Ayers	1898-04	scientific	good	yes

1. This is a general rating of the natural history content of the written record left by the explorer or expedition. This rating does not reflect the overall quality of the written record.

Explorer or Expedition	Bitterroot	Clark Fork	Flathead	Kootenai	Gallatin	Jefferson	Madison	Milk	Missouri	Musselshell	Blighorn	Powder	Tongue	Yellowstone
LaRave/Pardo									X		X			X
LaRocque									X		X			X
Lewis/Clark	X					X			X					X
Hunt												X		
Nuttall/Bradbury*									X					
Thompson		X	X	X										
Cox		X	X											
Ross	X	X												
Ashley/Henry									X		X			X
Ogden	X	X	X			X								
Wilhelm									X					X
Maximilian									X					

Table 2. Chart showing major explorers or expeditions entering or approaching (denoted by *) Montana and the drainages traversed during their journeys.

Table 2. Cont.

Explorer or Expedition	Bitterroot	Clark Fork	Flathead	Kootenai	Gallatin	Jefferson	Madison	Milk	Missouri	Musselshell	Bighorn	Powder	Tongue	Yellowstone
Ferrie		X	X			X	X		X					
Work		X	X			X								
Catlin									X					X
Wyeth	X	X	X								X			X
Russell					X	X	X				X			X
DeSmet	X	X	X	X	X	X		X	X	X	X	X	X	X
Audubon									X					X
Geyer	X	X				X	X							
Burke						X	X		X	X				X
Palliser									X					X
Denig et al.									X					X
Culbertson									X					

Table 2. Cont.

Explorer or Expedition	Bitterroot	Clark Fork	Flathead	Kootenai	Gallatin	Jefferson	Madison	Milk	Missouri	Musselshell	Blighorn	Powder	Tongue	Yellowstone
Gore									X			X	X	X
Stevens	X	X	X	X		X		X	X	X				X
Hayden 1854-55									X					X
Warren									X					X
Raynolds							X		X	X	X	X	X	X
British N.A.				X				X						
N.W. Boundary			X	X										
Mullan/Blake		X							X					
Yellowstone											X			X
DeLacy						X	X							
Powder R. Campaign											X	X	X	X
Mathews									X					

Table 2. Cont.

Explorer or Expedition	Bitterroot	Clark Fork	Flathead	Kootenai	Gallatin	Jefferson	Madison	Milk	Missouri	Musselshell	Big Horn	Powder	Tongue	Yellowstone
Koch									X	X				
Folsom/Cook					X		X							X
Washburn/Doane														X
Hayden 1871-72							X							X
Meslter								X	X					X
N. Pacific Railroad										X				X
Roberts									X					
Jones*														X
N. Boundary Comm.								X	X					
Dunraven					X		X							X
Yellowstone Wag. Rd.														X
Ludlow/Grinnell									X	X				X

Table 2. Cont.

Explorer or Expedition	Bitterroot	Clark Fork	Flathead	Kootenai	Gallatin	Jefferson	Madison	Milk	Missouri	Musselshell	Bighorn	Powder	Tongue	Yellowstone
Military Campaigns											X			X
Doane														X
Kurz									X					X
Hornaday										X				X

Table 3. List of forts and trading posts in Montana with date established and approximate location.

FORT/POST	DATE	APPROXIMATE LOCATION
Fort Alexander	1882	Yell. R. nb at Forsyth ¹
Fort Andrews	1882	Mo. R. nb w of UL Bend
Assiniboine		Milk R. sb near Havre
Badger Creek Post		se of Browning
Baker's Post		Milk R. sb near Dodson
Camp Baker		Smith River near Fort Logan
Fort Belknap	1871	Milk R. nb near Chinook
Fort Benton	1860	Mo. R. nb at Ft. Benton
Fort Benton	1821	Yell. R. sb at confl. with Big Horn R.
Brasseau's House	1868	Yell. R. nb near Savage
Bridger Pass Camp		ne of Bozeman
Fort Browning	1868	Milk R. sb near Dodson
Brown's Post	1860	Flatwillow Cr. near Flatwillow
Fort Buford	1866	Mo. R. nb w of confl. with Yell. R.
Camp Canby		Yell. R. sb at Glendive
Fort Campbell	1860	Mo. R. sb at Ft. Benton
Fort Carroll	1874	Mo. R. sb 15 mi. e of the Robinson Bridge
Fort Cass	1831	Yell. R. sb at confl. with Big Horn R.
Fort Chardon	1848	Mo. R. nb at confl. with Judith R.
Fort Charles	1861	Mo. R. sb 12 mi. w of Wolf Point
Fort Clagget		Mo. R. sb at confl. with Judith R.
Fort Clay		Mo. R. nb at Ft. Benton
Fort Connah or Flathead Post	1847	n of St. Ignathius

Table 3. Cont.		
FORT/POST	DATE	APPROXIMATE LOCATION
Fort Conrad	1875	Marias R. nb near Shelby
Camp Cooke		Mo. R. sb at confl. with Judith R.
Fort Copeland	1865	Mo. R. nb confl. with Milk R.
Fort C.F. Smith		Bighorn R. sb near Ft. Smith
Fort Cotton or Fort Lewis	1845	Mo. R. near Carter
Crow Agency		near Absarokee
Fort Custer		Bighorn R. at confl. with Little Bighorn R.
Fort Dauphin	1860	Mo. R. nb near Frazer
Fort Elizabeth Meagher		near Bozeman
Fort Ellis		near Bozeman
Fort Fizzle		on Lolo Creek w of Lolo
Flathead Fort or Saleesh House	1822	Clark Fork R. nb w of confl. with Thompson R.
Fort Gallatin		Gallatin R. at nw corner Yellowstone NP.
Fort Galpin	1862	Mo. R. nb w of confl. with Milk R.
Fort Gilbert	1851	Yell. R. nb near Sidney
Hammel's House	1853	Marias R. s of Shelby
Fort Harrison		Helena
Fort Hawley	1866	Mo. R. sb 15 mi. e Robinson Bridge
Fort Henry or Bighorn Post	1823	Yell. R. sb near Custer
Fort Howes		near Sonnette (sw of Broadus)
Howe's House	1810	n end of Flathead Lake near Bigfork
Fort Howie		on n fork of Musselshell near Checkerboard

Table 3. Cont.		
FORT/POST	DATE	APPROXIMATE LOCATION
Camp Ida Thoroughman		Yell. R. nb at confl. with Shields R.
Fort Jackson	1833	Mo. R. nb at Poplar
Juneaux's Fort		Lewistown
Juneaux's Post or Fort Turnay	1872	Milk R. sb at Hinsdale
Fort Kaiser	1865	Mo. R. nb near Fort Peck
Fort Keogh		Yell. R. sb at Miles City
Fort Kipp or Fort Moffat	1880	Mo. R. nb w of confl. with Big Muddy Creek
Fort Kootenai	1808	Kootenai R. nb near Libby
Kootenai Post	1811	Kootenai R. nb near Libby
Fort Labarge	1862	Mo. R. nb at Fort Benton
Camp Lewis		Lewistown
Little Belt Mountain City	1875	Mo. R. sb 15 mi. e of Robinson Bridge
Fort Logan		Smith R. wb about 20 mi. nw of White Sulphur Springs
Fort Maginnis		ne of Lewistown
Fort Manuel Lisa or Fort Ramon	1807	Yell. R. sb near Custer
Fort McKenzie	1832	Mo. R. nb near Loma
Camp Merritt		near Lame Deer
Fort Missoula		Missoula
Fort Musselshell Kerchival City Fort Sheridan	1869 1866 1870	Mo. R. sb at confl. with Musselshell R.
Fort Owen	1850	Bitterroot R. eb near Victor
Fort Parker		Yell. R. sb at confl. of Shields R.
Fort Pease	1875	Yell. R. sb near Custer
Fort Peck	1867	Mo. R. nb near Fort Peck

Table 3. Cont.		
FORT/POST	DATE	APPROXIMATE LOCATION
Pickett's Corral	1866	Milk R. nb near Harlem
Fort Piegan	1831	Mo. R. sb near Loma
Fort Poplar		Mo. R. nb near Poplar
Poplar Post		Mo. R. nb near Poplar
Camp Porter		Yell. R. nb at Glendive
Power-Norris Post	1881	Mo. R. sb at confl. Judith R.
Power's Post		Milk R. nb near Havre
Price's Post		Milk R. sb w of Chinook
Price's Post		Milk R. nb at Dodson
Reed's Fort	1874	Lewistown
Camp Reeve		Mo. R. sb 30 mi. e Robinson Bridge
Robert's Post		Judith Gap
Rocky Point Camp		Mo. R. sb 15 mi. e Robinson Bridge
Fort Sarpy or Meldrum's Post	1850	Yell. R. nb e of Rosebud Ck. near Thurlow
Fort Sarpy	1857	Yell. R. nb w of Forsyth
Fort Shaw		Sun River at Fort Shaw
Fort Sherman or Story's Fort	1873	Lewistown
Stanley's Stockade		Yell. R. sb at Glendive
Steven's Cantonment		Bitterroot R. eb near Corvallis
Fort Steward	1854	Mo. R. nb w of confl. with Big Muddy Creek
Terry's Landing		Yell. R. sb near Custer
Terry's Supply Camp		Yell. R. sb near Terry
Tounge River Cantonment		Yell. R. sb at Miles City

Table 3. Cont.		
FORT/POST	DATE	APPROXIMATE LOCATION
Three Forks Post or Fort Henry	1810	Mo. R. at Three Forks
Tom Campbell's House	1870	Milk R. sb near Vandalia
Fort Union	1828	Mo. R. nb w of confl. with Yell. R.
Fort Van Buren or Fort Tullock	1835	Yell. R. sb at confl. with Rosebud Cr.
Fort William	1833	Mo. R. nb at confl. with Yell. R.
Wilder's Landing	1875	Mo. R. sb 15 mi e Robinson Bridge
Wolf Point Post	1885	Mo. R. nb near Wolf Point
Fort Yellowstone		Near Mammoth Hot Springs

1. List of abbreviations:

nb = north bank
sb = south bank
eb = east bank
wb = west bank
confl. = confluence
Mo. = Missouri

e = east
w = west
R. = River
Cr. = Creek
Yell. = Yellowstone

SECTION THREE

LIST OF EARLY MONTANA NATURALISTS

Name	Lived	In Montana
Specialty		Geographic Area
Adams, Robert	1846-1906	1871-1875
plants	upper Yellowstone, Gallatin, Madison, Jefferson	
Alden, James M.		1858-1861
artist		northwest MT boundary
Alderson, Mary L.		1889-1892
plants		Bozeman area
Allen, George N.		1871
plants	upper Yellowstone, Gallatin, Madison, Jefferson	
Allen, Joel A.	1838-1921	1873
birds, mammals		lower Yellowstone Musselshell Rs.
Anderson, Frederick W.	1866-1891	1883-1888
plants		Great Falls Belt & Highwood Mts.
Audubon, John J.		
artist		Missouri R., Ft. Union
Ayers, Horace B.	1856-	
forestry		Flathead, Lewis & Clark Forests
Bailey, Florence A.M.	1863-1948	
birds		Glacier & Yellowstone NPs
Bailey, Vernon O.	1864-1942	
mammals		Glacier & Yellowstone NPs
Baker, Horace B.	1889-	
snails		
Ball, Carleton R.	1873-	
plants		Front Range
Blakiston, Thomas W.		1857-1858
birds	Flathead, Kootenai Rs.	Mont./Canada border
Blankinship, Joseph W.	1862-1938	1898-1905
plants		statewide
Bourgeau, Eugene	1813-1877	1857-1861
plants		possibly northern Montana

Name	Lived	In Montana Geographic Area
Bodmer, Karl artist	1909-1893	1833 Missouri R.
Brandeggee, Edward N. plants	1865-1942	1892?-1935 Lewis & Clark Co.
Burglehaus, Fred H. plants	1869-1929	Yellowstone NP
Burke, Joseph plants	1844-1845 Yellowstone, Musselshell, Madison, Jefferson Rs.	
Butler, Bertram T. plants	1872-	1906-1907 Glendive
Cameron, Evelyn photography		Custer and Dawson Cos.
Cameron, Ewen birds		Custer and Dawson Cos.
Canby, William M. plants	1831-1904	1883 Flathead R. Lewis & Clark Co.
Carleton, Mark A. plants	1866-1925	1889 Lewis & Clark Co.
Carpenter, William L. insects	-1898	Bighorn Mountains
Catlin artist	1796-1872	1832 Missouri R., Ft. Union
Clark, William natural history	1770-1838 Missouri, Yellowstone, Bitterroot Rs.	1805-1806
Comstock, Theodore S. geology	1849-1915	1873 Yellowstone NP
Conrad, Henry S. plants	1874-	1924-1926 Yellowstone NP
Cooke, Amy W. plants		1900-1903 Gallatin Co.

Name	Specialty	Lived	In Montana Geographic Area
Cooley, Robert A.	insects	1873-	1903-1931 state
Cooper, James G.	birds, plants	1830-1902	1853-1854, 1860 Missouri R.
Cope, Edward D.	natural history	1840-1897	1874-1877
Coues, Elliott	birds, plants	1842-1899	1874 Milk R.
Coulter, John M.	plants		1871 Yellowstone NP
Cowles, Henry C.	plants	1869-1939	1901 Flathead, McDonald Ls
Culbertson, Thaddeus A.	natural history	-1850	-1850 Missouri R.
Dawson, George M.	Geology, natural history	1849-1901	1874 Milk R.
Dieck, George	plants		1888 Deer Lodge
Douglas, Earl	paleontologist	1862-1931	1897-1900 western Montana
Eggleston, Willard W.	plants	1863-1935	
Elrod, Morton J.	zoology, plants	1863-	Flathead L., Glacier NP.
Evermann, Barton W.	fishes	1853-1932	western Montana
Fitch, Laura A.	plants		1892 Sheridan, Virginia City
Fitzpatrick, Thomas J.	plants	1868-	1902 Flathead L.
Geyer, Charles A.	plants	1809-1853	1843 Bitterroot, Flathead, Clark's Fork Rs.

Name	Lived	In Montana Geographic Area
Gibbs, William birds		1884 Helena
Gooding, Leslie N. plants	1880-	1899 Yellowstone NP.
Griffiths, David plants	1867-1935	1898, 1900 Billings, Red Lodge, Missoula
Grinnell, George B. naturalist	1849-1938	1876 central Montana, Yellowstone NP
Harris, Joseph S. naturalist		1857-1861 northwest MT boundary
Harris, Wilson plants		1901 Missoula, Flathead Lake
Havard, Valery plants	1846-1927	1877, 1879 Yellowstone, Musselshell, Missouri, Milk Rs.
Hayden, Ferdinand V. geology, plants	1829-1887	1853-54, 1855-57, 1871-72 Yellowstone, Bighorn, Powder, Yellowstone NP
Hector, James birds, natural history	1834-1907	1857 Montana/Canada border
Heller, Edmund mammals	1875-1939	1921 Yellowstone NP
Henshall, Hester S. plants, artist		1898-1903 Bozeman, Bridger Mts.
Henshall, James A. fishes	1844-1925	1896-1909 Bozeman
Hilgard, Eugene W. soils	1833-1916	1880-1883 northern Montana
Hoffman, Walter J. birds		Flathead Reservation
Hornaday, William T. mammals	1854-1937	1886 Miles City, Jordan

Name	Lived	In Montana Geographic Area
Howard, Winslow J. plants		1866 western Montana
Jackson, William H. photographer	1843-1942	1871 Yellowstone NP
Jennings, Herbert S. plants	1868-1947	1897 Bozeman
Jones, Burle J. plants		1900-1903 Bozeman
Jones, William A. engineer	1841-	1873 Yellowstone NP, Fort Ellis
Jones, Wyatt W. plants	1879-	1900-1903 Bozeman
Jordan, David S. fishes	1851-1931	Yellowstone NP
Kelsey, Francis D. plants	1849-1905	1885-1892 western Montana
Kendall, William C. fishes	1861-1939	Yellowstone NP
Kennedy, Irene M. plants		1884-1900 Great Falls, Belt, Flathead L.
Kennerly, C.B.R. naturalist		1857-1861 northwest MT boundary
Kirkwood, Joseph E. ecologist	1872-1928	1909-1928 western Montana
Koch, Peter natural history	1844-1917	1869-1917 Missouri R., Bozeman, Cooke City
Koch, Elers forestry		western Montana
Langford, Nathaniel P. natural history	1832-1911	Yellowstone NP

Name	Lived	In Montana Geographic Area
Lehman, Arthur plants		1904 Flathead L., Mission Mts.
Leiberg, John B. forestry	1853-1913	n. Idaho, w. Montana
Lewis, Meriwether natural history	1774-1809	1805-1806 Missouri, Jefferson, Bitterroot Rs.
Light, J.E. plants		1892 Custer Co.
Lord, John K. ornithologist	1818-1872	1858-1861 northwest Montana boundary
Ludlow, William engineer	1843-1901	1875 Yellowstone NP
Lyall, David plants	1817-1895	1858-1861 northwest Montana boundary
MacDougal, Daniel T. plants	1865-	1892 Clark Fork R. Flathead L. Glendive
Marcy, Oliver plants	1820-1899	1866 Bitterroot Mts., Fort Benton
Mathews, A.E. artist		1860s Missouri River
Matthes, Francois E. geology	1874-1948	Glacier NP
Maximilian, Alexander P. natural history	1782-1867	1832-1834 Missouri River
Mearns, Edgar A. plants	1856-1916	1889, 1902 Yellowstone NP
Merriam, Clinton H. natural history	1855-1942	1872 Yellowstone NP
Milner, James W. fishes	1841-1879	

Name	Lived	In Montana Geographic Area
Specialty		
Muenschner, Walter C. plants	1891-	1915, 1916
Murie, Olaus J. natural history	1889-1963	Yellowstone NP
Muttkowski, Richard A. insects	1887-	Yellowstone NP
Nelson, Aven plants	1859-	1899 Yellowstone NP, Montana
Newberry, John S. paleontology	1822-1892	1884 northern Montana
Norton, Gertrude P. plants		1909 Flathead L. Glacier NP
Notestein, F.N. plants		1890-1895 Deer Lodge
Olson, Olaf M. plants		1904 Yellowstone NP
Osborn, Henry F. paleontologist	1857-1935	1906
Packard, Alpheus S. insects	1839-1905	
Palliser, John natural history	1807-1887	1847, 1857-1858 Yellowstone R. northern Montana
Peale, Albert C. geology	1849-1914	1871-1872 Yellowstone NP
Pearsall, John natural history		1858-1862 Fort Benton, Helena, western Mont.
Roosevelt, Theodore natural history	1858-1991	1903 Yellowstone NP
Russell, E.C. birds		1884 Whitehall

Name Specialty	Lived	In Montana Geographic Area
Rydberg, Per A. plants	1860-1931	1896, 1897, southwest & central Montana
Sandberg, John H. plants	1849-1917	1892 Clark Fork R. Glendive
Saunders, Aretas A. birds	1884-	1908-1915 southwest Montana
Scheuber, Emma W. plants		1888-1892 Deer Lodge Co., Park Co.
Scribner, Frank L. plants	1851-1938	1883 Lima, Dillon, Helena, Bozeman
Seymour, Arthur B. plants	1859-1933	Billings, Livingston, Bozeman Helena
Shaw, William T. plants	1873	1892 Deer Lodge , Bozeman
Shear, Cornelius L. plants	1865	Montana
Skinner, Milton P. natural history	1879-	Yellowstone NP
Smet, Pierre Jean De natural history	1801-1873	various dates various locations
Smith, Ernest C. plants	1864-	1904 Yellowstone NP
Snyder, Arthur J. insects		1897
Spragg, Frank A. plants		1900-1901 Fergus Co.
Standley, Paul C. plants	1884	Glacier NP
Suckley, George birds	1830-1869	1853 central & western Montana
Suksdorf, Wilhelm N. plants	1850-1932	1889 Park City, Big Timber, Bozeman

Name	Lived	In Montana Geographic Area
Swallow, George C. geology	1817-1899	1867-1870 western Montana
Thompson, David natural history	1770-1857	1808-1811 Clark Fork, Kootenai Rs.
Tilden, Josephine E. plants		1896 Yellowstone NP
Traphagen, Frank W. plants	1861-1941	1888-1892 Deer Lodge
Tweedy, Frank plants	1854-1937	1881-1891 Yellowstone NP, s. & sw Mont.
Umbach, Levi M. plants	1853-1918	1901-1903 L. MacDonald, Big Fork
Vogel, Jacob plants		1900-1903 Gallatin Co.
Watson, Sereno forestry	1826-1892	1880 western Montana
Whitford, Harry N. forestry	1872-1941	1902 western Montana
Wilcox, Earley V. plants	1869-	1896-1899 Absaroka Mts.
Wilhelm, Friederich P. natural history	1797-1860	1830 Missouri, Yellowstone Rivers
Williams, Robert S. plants/birds	1859-1945	1880-1899 Teton , Cascade Cos. Belt, Highwood Mts.
Williams, Thomas A. plants	1865-1900.	1898 Billings, Red Lodge, Missoula
Willis, Bailey geology	1857-1949	Glacier NP
Wyeth, Nathaniel J. plants	1802-1856	1834 western and southern Montana

SECTION FOUR

**A LISTING OF BOOKS, PAPERS, AND DOCUMENTS
PERTAINING TO PRESETTLEMENT HABITAT AND WILDLIFE
OF MONTANA AND ADJACENT LANDS**

- Abbott, G.A. 1906. Up the Yellowstone on a Pinto. Condor 8:151-152
- Able, A.H. 1921. Trudeau's description of the Upper Missouri. Mississippi Valley Historical Review. VIII.
- Able, A.H. ed. Tabeaus' narrative of Loisel's expedition to the upper Missouri. Norman, OK, Univ. of Oklahoma Press. [Tabeauss' journal from June 1803-May 1805 details his travels to Mandan and Arikaras Villages. He did not reach Montana but journal has natural history notes.]
- Able, A.H. 1932. Chardon's journal at Ft. Clark: 1834-1839. S. Dakota Dept. Hist. Pierre.
- Adams, A.B. 1966. John James Audubon: A biography. G.P. Putnam's Sons, New York.
- Albright, G.L. 1921. Official explorations for Pacific railroads, 1853-1855. Univ. of California Press, Berkeley.
- Allen, J.A. 1871. The fauna of the prairies. Amer. Nat. 5:4-9.
- Allen, J.A. 1873. Crows and ravens. Amer. Nat. 7:743-744.
- Allen, J.A. 1873. The Missouri Skylark. Amer. Nat. 7:745.
- Allen, J.A. 1874. Notes on the natural history of portions of the Dakota and Montana Territories, being the substance of a report to the Secretary of War on the collections made by the North Pacific Railroad Expedition of 1873, Gen. D.S. Stanley, Commander. Birds. Proc. Boston Soc. Nat. Hist. 27:3-68.
- Allen, J.A. 1876. The American bisons, living and extinct. Memoirs of Comparative Zoology, at Harvard College, Cambridge, MA. Vol.4, No. 10.
- Allen, J.A. 1876. Breeding of the Canada goose in trees. Bull. Nuttall Orn. Club. 1:50.
- Allen, J.A. 1892. The geographic distribution of North American Mammals. Bull. Amer. Mus. Nat. History 4:199-243.
- Allen, J.A. 1902. Biography of J.G. Cooper. Auk 19:421-422.
- Anderson, E.S., S.C. Forrest, T.W. Clark, and L. Richardson. 1986. Paleobiology, Biogeography, and systematics of the black-footed ferret, *Mustela nigripes* (Audubon and Bachman) 1851. in The Black-footed Ferret. Great Basin Naturalist

- Memoirs. Vol 8:11-62. [Contains information of early records of ferrets in Montana.]
- Anderson, F.W. 1889. Pastoral resources of Montana. Rep. Com. Agr. 1888:311-324. Washington, DC.
- Anthony, A.W. 1896. A new subspecies of the genus *Dryobates*. Auk 8:31-34.
- Atkinson, H. 1826. Expedition up the Missouri 1825. 19th Cong. 1st Sess. House Doc. 117, Washington, DC.
- Audubon, J.J. 1831-1839. Ornithological biography. 5 vols. A. Black, Edinburgh.
- Audubon, J.J. 1826-1838. Birds of America. 7 vols. Lizars, and London: Havell, Edinburgh.
- Audubon, M., ed. 1897. Audubon and his journals, with zoological and other notes by Elliott Coues. 2 vols. Charles Scribner's Sons, New York.
- Audubon, J.J. and J. Bachman. 1845-1854. The viviparous quadrupeds of North America. 3 vols. New York: V.G. Audubon.
- Ayers, H.B. 1900. Flathead Forest Reserve. 1st Ann. Rep. U.S. Geol. Surv. 5:245-316. Washington, DC.
- Ayers, H.B. 1901. Lewis and Clark Forest Reserve, Montana. 21st Ann. Rep., Part 5. U.S. Dept. of the Interior, Geological Survey; 27-80. Washington, DC.
- Bailey, B. 1913. Some winter notes from the Bitterroot Valley, Montana. Condor 15:94.
- Bailey, B. 1913. Some spring notes from the Bitterroot Valley, Montana. Condor 15:184.
- Bailey, V. 1887. Report on some of the results of a trip through parts of Minnesota and Dakota. Rpt. Comm. Agr. [U.S.] pp. 426-454.
- Bailey, V. 1926. A biological survey of North Dakota. USDA Bur. Biol. Surv. North American Fauna, 49:1-226. [Despite the late publication date, Bailey has assembled numerous observations of wildlife dating to presettlement times. He provides considerable detail of the current and past wildlife situation in western North Dakota.]
- Bailey, V., W.B. Bell, and M.A. Brannon. 1914. Preliminary report on the mammals of North Dakota. N.D. Agr. Exp. Sta.

Circ. 3. 20 pp.

Bailey, V. and Bailey, F.M. 1918. Wild animals of Glacier National Park. U.S. Govt. Print. Off., Washington, DC. 210 pp.

Bailey, V.O. 1930. Animal life of Yellowstone National Park. Thomas.

Baird, S.F. 1851. Introduction to Appendix to Culbertson's Journal. 5th Ann. Rep. Smithsonian Inst. 1850, p. 133. [reprinted in McDermont 1950]

Baird, S.F. 1851. Report on American explorations for the years 1853 and 1854. in Smith. Inst. Ann. Rept. Vol. 9:79-97. [First in a series of annual reports of ongoing U.S. explorations, continued in V. 10:42-47, V. 11:48-52, V. 12:46-48, V. 13:50-52, V. 14:63-68, V. 15:66-72, V. 16:58-61, V. 18:52-56.]

Baird, A.B. 1857. Mammals (Part 1), in Reports of explorations and surveys for a railroad from the Mississippi River to the Pacific Ocean. Vol. 8. 757 pp.

Baird, S.F., J. Cassin and G.N. Lawrence. 1858. Reports of explorations and surveys to ascertain the most practicable and economical route for a railroad from the Mississippi River to the Pacific Ocean. Birds, Vol 9., A.O.P. Nicholson, Washington, DC. 1005 pp.

Baird, S.F. 1874. Annual record for science and industry for 1873. [Contains itinerary of the Jones Exp. to YNP.]

Baird, S.F. 1874. A history of North American Birds. Land Birds. Vols. I-III. [Contains the original description of *Cyanocitta stelleri annectens* from the vicinity of Missoula.]

Bakeless, J.E. 1947. Lewis and Clark: Partners in Discovery. Morrow, New York

Baker, M. 1900. Survey of the northwestern boundary of the United States, 1857-1861. Geological Survey Bulletin No. 174. U.S. Dept. of Interior, Washington, DC.

Bangs, O. 1900. A review of three-toed woodpeckers of North America. Auk 17:126-142.

Barber, L. 1980. The heyday of natural history: 1820-1870. Doubleday, Garden City, N.Y.

Barnes, W.C. 1912. Report on the elk using the ranges of the

- national forests surrounding the Yellowstone National Park. U.S. Forest Service Spec. Rept. 71 pp.
- Barnett, L. 1972. The buffalo bone commerce on the northern plains. North Dakota History, XXXIX winter.
- Bartlett, R.A. 1962. Great surveys of the American West. Oklahoma Univ. Press, Norman.
- Bartlett, R.A. and W.H. Goetzmann. 1982. Exploring the American west, 1803-1879. U.S.D.I. National Park Service Handbook 116. U.S. Govt. Print. Off., Washington, DC.
- Barlow, J.W. and D.P. Heap. 1872. Report of a reconnaissance in Wyoming and Montana Territories, 1871. Govt. Print. Off., Washington, DC. 43 pp.
- Beckes, M.R. and J.D. Keyser. 1983. The prehistory of the Custer National Forest: An Overview. Custer National Forest, Billings, MT.
- Bek, W.G. 1941. First journey to North America in the years 1822 to 1824, by Paul, Prince of Wurttemberg. South Dakota Historical Collections. Vol. 19. South Dakota Historical Soc., Pierre.
- Beckwourth, J.P. 1972. The life and adventures of James P. Beckwourth; as told to Thomas D. Bonner. ed. D.R. Oswald. Univ. Nebraska Press, Lincoln. 649 pp. [This is an autobiographical account of James Beckwourth's travels in the Rocky Mountain west and California from 1823-1850. Although Beckwourth spent a considerable portion of his time with Crow Indians in the Yellowstone drainage basin, there is very little natural history information. Many of Beckwourth's accounts of events do not agree with other observer's accounts leading most modern historians to view his autobiography with skepticism.]
- Old Fort Benton, Montana: early fur trading post with Blackfoot Indians and head of navigation on the Missouri River. Ye Galleon Press. 1975. 31 pp. [A general history of Fort Benton with some information on bison hides traded.]
- Bendire, C.E. 1892. Life histories of North American birds with special reference to their breeding habits and eggs. Special Bull. No. 1. U.S. National Mus.
- Bendire, C.E. 1895. Life histories of North American birds from the parrots to the grackles with special reference to their breeding habits and eggs. Special Bull. No. 3. U.S. National Mus. [These two papers by Bendire contain many references to Montana localities that are not published

elsewhere.]

- Bergman, H.F. 1911-12. Flora of North Dakota. N.D. Agr. Col. Survey. Bien. Rpt. 6. pp.151-372.
- Betts, N.DeW. 1916. Birds seen in the valley of the South Fork of the Flathead River, Montana. Condor 18:161-163.
- Biedleman, R.J. 1957. Nathaniel Wyeth's Fort Hall. Oregon Historical Quarterly 58:197-250
- Bishop, L.B. 1900. Description of three new species from Alaska. Auk 17:113-120. [Mentions an intergrade of *Sayornis s. saya* and *S. s. yukonensis* from the Musselshell River.]
- Bishop, L.B. 1901. Montana redpolls. Auk 18:195.
- Bishop, L.B. 1915. Description of a new race of savannah sparrow and suggestions on some California birds. Condor 17:185-189.
- Blakiston, T.W. 1859. Report of the exploration of two passes through the mountains in 1858. Woolwich.
- Blakiston, T.W. 1859. Report of the exploration of Kootenai and Boundary Passes of the Rocky Mountains in 1858. Occasional Papers of the Royal Artillery Institution, London. I:237-254.
- Blakiston, T.W. 1862-63. On birds collected and observed in the interior of British North America. The Ibis 3:314-320, 4:3-10, 5:39-87, 122-155.
- Blankinship, J.W. 1901. Weeds of Montana. Mont. Agr. Exp. Sta. Bull. 30. pp 1-70.
- Blankinship, J.W. 1902-1904. Report of the botanist. Bull Mont. Agr. Exp. Sta. 32:38-44, Ann. Rep. Mont. Exp. Sta. 9:68-79, and 10:64-68.
- Blankinship, J.W. 1905. A century of botanical exploration in Montana. Montana Agricultural College Scientific Studies 1:3-31. [This is a major publication summarizing botanical exploration in Montana. The paper includes an account of 19th century plant collectors and collections from Montana and bibliography of published accounts of Montana plants.]
- Blankinship, J.W. 1905. Supplement to the flora of Montana. Montana Agricultural College Scientific Studies 1:33-109.
- Bonney, O.H., and L. Bonney. 1970. Battle drums, and geysers;

the life and journals of Lt. Gustavus Cheyrey Doane, soldier and explorer of the Yellowstone and Snake River regions. Chicago, Sage Books. 622 pp.

- Brackenridge, H.N. 1814. Views of Louisiana. Together with a journal of a voyage up the Missouri River, in 1811. Quadrangle Books, Inc. [This book contains a historic description of Louisiana and a synthesis of available information on native people, geography, and wildlife of the region. It also contains Brackenridge's journal of his trip up the Missouri River to the Mandan Villages. Although he did not enter Montana, the journal has an excellent account of wildlife and habitat along the Missouri River.]
- Brackenbridge, H.M. 1976. Journal of a voyage up the River Missouri performed in 1811. Crouse Reprint Co. N.Y. 247 pp.
- Brackenridge, H.M. 1819. Travels in the interior of America. 1904. Cleveland: Arthur H. Clark Co.
- Bradbury, J. 1817. Travels in the interior of America in the years 1809, 1810 and 1811. Sherwood, Neely and Jones, London.
- Bradley, J.H. 1900. Affairs at Fort Benton from 1831 to 1869. Montana Hist. Soc. Contr., vol 3, pp.201-287.
- Bradley, J.H. 1966. Affairs at Fort Benton from 1831 to 1869. J.S. Canner & Co., Boston
- Bradley, J.H. 1896, 1900, 1917, 1923. The Bradley manuscript. Montana Hist. Soc. Contr. vols. II, III, VII, IX.
- Broadwater Hist. Soc. 1977. Broadwater bygones. [This document contains some natural history information for Broadwater county and is available at the Townsend museum.]
- Brown, M.H. 1969. The plainsmen of the Yellowstone: A history of the Yellowstone Basin. Bison Books, Univ. of Nebraska Press, Lincoln. [An excellent account of exploration of the Yellowstone River. Contains some natural history information.]
- Burdick, U.L. 1940. Tales from buffalo land: the story of Fort Buford. Cheltenham, MD.
- Burlingame, M.G. 1928. The economic importance of the buffalo in the northern plains region, 1880-1890. M.S. Thesis. State Univ. of Iowa.
- Burlingame, M.G. 1929. The buffalo in trade and commerce. North Dakota Historical Quarterly, III July.

- Burpee, L.J. ed. 1927. Journals and letters of Pierre Gaultier des Varennes de la Verendrye and his sons, with correspondence between the governors of Canada and the French court, touching the search for the western sea. The Champlain Soc.
- Burpee, Lawrence J. ed. Pathfinders of the great plains; a chronicle of La Verendrye and his sons. 112 pp. [Contains some information on LaVerendrye's trip to the Bighorn Mountains in 1742-43 but does not include natural history information.]
- Burpee, Lawrence J. ed. An adventurer from Hudson bay. Journal of Matthew Cocking, from York Factory to the Blackfeet country, 1772-73. Royal Soc. of Canada. [Although Cocking did not enter Montana (closest approach S. Fork Saskatchewan River), his journal is extremely valuable for early natural history information and includes comments from Indians on his natural history observations.]
- Burpee, L.J., ed. 1910. The journal of LaRocque from the Assiniboine to the Yellowstone, 1805. Publications of the Canadian Archives, Ottawa: No. 3, 17.
- Burroughs, R.D. 1961. The natural history of the Lewis and Clark expedition. Michigan State Univ. Press. East Lansing. [A thorough documentation of the natural history aspects of the expedition.]
- Cameron, E.S. 1891. Letter in regard to migration of Swainson hawks in Montana. Ibis, 6th series, III:623-625.
- Cameron, E.S. 1900. On the migration of phalaropes in Montana. Ibis, 7th series, VI:67-70.
- Cameron, E.S. 1905. Sabine's gull in Montana. Auk 22:76.
- Cameron, E.S. 1905. Nesting of the golden eagle in Montana. Auk 22:158-167.
- Cameron, E.S. 1905. Hoary redpoll in Montana. Auk 22:313.
- Cameron, E.S. 1906 Nesting of the great blue heron in Montana. Auk 23:252-262.
- Cameron, E.S. 1907-1908. The birds of Custer and Dawson counties, Montana. Auk 24:241-270, 389-407, 25:39-56.
- Cameron, E.S. 1908. Observations on the golden eagle in Montana. Auk 25:251-268.
- Cameron, E.S. 1908. Changes of plumage in *Buteo swainsoni*. Auk

25:468-471.

- Cameron, E.S. 1913. Notes on the Swainsons hawk ... in Montana. Auk 30:167-176.
- Cameron, E.S. 1914. The ferruginous rough-leg ... in Montana. Auk 31:159-167.
- Carleton, M.A. 1893. List of plants collected by the Garfield University expedition of 1889. Trans. Kansas Acad. of Sci. 13:50-57.
- Carpenter, W.L. 1876. Field notes on the natural history of the Big Horn Mountains, Montana. Forest and Stream 7:196.
- Carrington, H.B. 1879. Absaroka, land of massacre. J.B. Lippincott & Co., Philadelphia, PA.
- Carter, T.H. 1899. Papers. Library of Congress, Manuscript Div. [Relates to Glacier National Park.]
- Cartwright, D.W. and M.F. Bailey. 1875. Natural history of western wild animals and guide for hunters, trappers, and sportsmen. Toledo
- Catlin, G. 1876. Illustration of the manners, customs, and conditions of the North American Indian. Chatto and Windus, Piccadilly, London.
- Catlin, G. 1891. Catlin's Indians. Hubbard Bros. Book Co., Philadelphia, PA. 792 pp.
- Chaney, L.W. 1885. A glacier in the mountain rockies. Science, n.s. 2 December 13.
- Chambers, F. 1988. Hayden and his men, being a selection of 108 photographs by William Henry Jackson of the USGS and geographical survey of the Territories for the years 1870-1878. F. Paul Geoscience Literature.
- Chapman, F.M. 1907. The warblers of North America, by Frank Chapman with the co-operation of other ornithologists. 315 pp. [Contains several records from Montana not published elsewhere.]
- Chappell, P.E. 1905-6. A history of the Missouri River. Kans. State Coll. vol. 9 pp. 237-294.
- Chappell, P.E. 1905-6. Missouri River steamboats. Kans. State Coll. vol. 9 pp. 295-316.
- Chittenden, H.M. 1985. The Yellowstone National Park. The

Robert Clark Co., Cincinnati, OH.

- Chittenden, H.M. 1902. The American fur trade of the far west. 3 vols. Francis P. Harper, New York.
- Chittenden, H.M. 1903. History of early steamboat navigation of the Missouri River. Vol. I & II. Francis P. Harper, New York. [Contains very little natural history information but is an excellent account of steamboat traffic on the River.]
- Chittenden, H.M., and A.T. Richards, eds. 1905. The life, letters, and travels of Father Pierre-Jean DeSmet, S.J., 1801-1873. Francis P. Harper. New York. pp. 1213-1624
- Clarke, H.P. 1896. Sketch of Malcom Clarke. Mont. Hist. Soc. Contr., vol. 2, pp. 255-268.
- Coale, H.K. 1915. Present status of the trumpeter swan (*Olor bucinator*). Auk 32:82-90. [Contains a number of recent Montana records not published elsewhere.]
- Comstock, T.B. 1874. The Yellowstone National Park. Amer. Nat. 8:75-76.
- Cope, E.D. 1879. A contribution to the zoology of Montana. Amer. Nat. 13:432-441.
- Cooke, W.W. 1906. Distribution and migration of North American ducks, geese, and swans. U.S. Dept. Ag. Biological Survey, Bull. No. 26. 90 pp. [Saunders (1921) indicates that this book contains some original records for Montana. Cooke produced 24 similar publications between 1903-1916 dealing with North American birds. His other major publication is listed below. Saunders (1921) contains a complete listing of Cooke's papers.]
- Cooke, W. W. 1910. Distribution and migration of North American shorebirds. G.P.O. Bulletin - U.S. Biological Survey #35. 100 pp. [This book gives specific breeding and wintering areas, and migrating and nesting dates. Many citations pertain to Montana but the sources of the citations are not listed.]
- Cooke, W.W. 1915. Our shorebirds and their future. Condor 17:237-238.
- Cooley, R.A. 1903. Wood ibis in Montana. Auk 10:210.
- Cooper, J.G. 1868-69. The fauna of Montana Territory. Amer. Nat. 2:528-538, 596-600, 3:73-84, 294-299, 405-422.
- Cooper, J.G. 1869. Notes on the fauna of the upper Missouri.

- Cooper, J.G. 1869. The sylvia of Montana. Amer. Nat. 3:405-422.
- Cooper, J.G. and G. Suckley. 1854. The natural history of Washington Territory, with much relating to Minnesota, Nebraska, Kansas, Oregon, and California, between the thirty-sixth and fortyninth parallels of latitude, being those parts of the final reports on the survey of the northern Pacific railroad route, containing the climate and physical geography, with full catalogues and descriptions of the plants and animals collected from 1853-1857. Bailliere Bros., New York.
- Cooper, J.G. and G. Suckley. 1860. Report upon the birds collected on the Pacific Railroad Survey. Chpt. 1. Land Birds, Chpt. 2. Water Birds. in Pacific Railroad Rpt. No. 12, Book 2, Part 3. Route near the forty-seventh and forty-ninth parallels, explored by I.I. Stevens, Governor of Washington Territory in 1853-1855. pp.140-291.
- Coues, E. 1874. Birds of the Northwest: A handbook of the ornithology of the region drained by the Missouri River and its tributaries. Misc. Publ. No. 3, U.S. Geol. Survey of the Territories of Washington. Washington, DC. 802 pp. [Contains a large amount of material on Montana birds not published elsewhere.]
- Coues, E. 1874. On the nesting of certain hawks, etc. Amer. Nat. 8:596-603. [Observations on the nesting of the ferruginous hawk, and prairie and peregrine falcons along the Milk River.]
- Coues, E. 1875. On breeding of certain birds. Amer. Nat. 9:75-78.
- Coues, E. 1875. The prairie gopher. Amer. Nat. 9:147-156. [This paper deals with the Richardson's ground squirrel in Montana. Among other things, Coues notes that they scavenged extensively on bison carcasses.]
- Coues, E. 1877. Fur bearing animals: a monograph of North American Mustelidae. Dept. of Interior. USGS Misc. Publ. 8:149-153. [Reports on a ferret taken along the Milk River]
- Coues, E. 1878. Field notes on birds observed in Dakota and Montana along the forty-ninth parallel during the seasons of 1873 and 1874. Article XXV. Pages 545-661 in Bull. of the U.S. Geological and Geographical Survey Vol. IV. Govt. Print. Off., Washington, DC.
- Coues, E. 1883. History of the expedition under the command of

Lewis and Clark. Francis P. Harper, New York.

Coues, E., ed. 1898. Forty years a fur trader on the upper Missouri, the personal narrative of Charles Larpenteur, 1833-1872. Francis P. Harper, New York. [An excellent journal of the fur trade along the Missouri River but contains little natural history information.]

Cox, R. 1831. Adventures on the Columbia River, including the narrative of a residence of six years on the western side of the Rocky mountains, among various tribes of Indians hitherto unknown. J & J Harper. [A well written book of which part includes information of the fur trade in northwest Montana but contains little natural history information.]

Croft, J.M. 1882. Notes from Florence Springs, MT. Orn. and Ool. 7:107.

Crooker, O.E. 1892. *Sitta canadensis* in Montana. Oologist 9:183-184.

Crouse, Nellis M. 1928. In quest of the western ocean. W. Morrow & Co. 480 pp. [This book summarizes expeditions in search of the Pacific Ocean starting in the early 1500s up through the 1700s. It includes a summary of LaVerendryes effort to find the Pacific.]

Crouse, N.M. 1956. La Verendrye, fur trader and explorer. Cornell Univ. Press.

Culbertson, Thaddeus A. 1986. Journal of an expedition of the Mauvaises Terres and the Upper Missouri in 1850. Ye Galleon Press. [An excellent journal containing some natural history information for northeastern Montana and western Dakotas.]

Custer, G.A. 1875. Report of the Chief of Army Engineers in Annual report of the Secretary of War. 43rd Cong., 2nd sess., H.R. Exec. Doc. I, Pt. II (1874-1875), Appendix KK: Preliminary report of reconnaissance to the Black Hill, St. Paul Minn., 7 Sept. 1874.

Dall, W.H. 1902. Biography of J.G. Cooper. Science New Series 16 no. 398:268-269.

Dall, W.H. 1915. Spencer Fullerton Baird, a biography... Philadelphia.

Dary, D.A. 1974. The buffalo book. Swallow Press, Chicago. 374 pp.

- Dawson, G.M. 1875. Report on the geology and resources of the region in the vicinity of the forty-ninth parallel, from the Lake of the Woods to the Rocky Mountains with lists of plants and animals collected and notes on the fossils. North American Boundary Commission. 1872-1875.
- Dawson, G.M. 1890. Report on a portion of the west Kootenie district, British Columbia. W.F. Brown & Co. 1890.
- DeLacy, W.W. 1902. A trip up the south Snake River in 1863. in Contributions to the Historical Society of Montana, vol. I, 2nd ed. Helena, MT, Independent Publishing Co. and Rocky Mountain Publishing Co.
- Delafield, J. 1943. The unfortified boundary. A diary of the first survey of the Canadian boundary line from St. Regis to Lake of the Woods by Major Joseph Delafield, American Agent under Articles VI and VII of the Treaty of Ghent. Edited by Robert McElroy and Thomas Riggs. New York. [Major Delafield served on the boundary commission with D. Thompson from 1817-1823.]
- Dale, H.C. 1941. The Ashley-Smith explorations. Glendale, CA.
- Denig, E.T. 1930. Indian tribes of the upper Missouri. ed. by J.N.B. Hewitt. 46th Ann. Rep. Bur. Amer. Ethnol., 1928-1929, pp 375-628.
- Denig, E.T. 1961. Five Indian tribes of the upper Missouri. ed. J.C. Ewers. Univ. of Oklahoma Press, Norman. [An excellent account of the five tribes with each section beginning with an account of the land and wildlife in the region controlled by the tribes.]
- DeSmet, P.J. 1843. Letters and Sketches: With a narrative of a year's residence among the Indian tribes of the Rocky Mountains. M. Fithian, Philadelphia, PA.
- DeSmet, P.J. 1847. Oregon missions and travels over the Rocky Mountain in 1845-46. Edward Dunigan, New York.
- DeSmet, P.J. 1863. Western missions and missionaries: A series of letters. Kirker and Dunigan, New York.
- Deutsch, H.J. 1962. A contemporary report on the 49° boundary survey. Pacific Northwest Quarterly 53:17-33.
- Devoto, B. ed. 1953. The journals of Lewis and Clark. Houghton Mifflin, Boston.
- DeVoto, B.A. 1964. Across the wide Missouri. Houghton Mifflin, Boston.

- Dillard, G.M. A sporting vacation in Montana. Outing. [An interesting account of sport hunting near Lewistown with some quantitative data on sharptail abundance.]
- Dixon, J.M. Papers, Montana Historical Society. [Relates to Glacier National Park.]
- Doane, G.C. 1870. Report on the Yellowstone expedition of 1870. 41st Congress 3rd session, Senate Ex. Doc. No. 51, Washington, DC.
- Doane, G.C. 1877. Expedition of Lt. G.C. Doane; Ft. Ellis, Montana to Ft. Hall, Idaho, Oct 11, 1876 to January 4, 1877. Moose, Wyo. Natural History Assoc., 1960. 42 pp.
- Douglas, D. 1914. Journal kept by David Douglas during his travels in North America, 1823-1827.
- Douglas, E. 1905. Tertiary of Montana. Carnegie Mus. Memoirs ser. 2, no. 5.
- Douglas, W.B. 1916. Three years among the Indians and Mexicans - Thomas James. St. Louis.
- Dunbar, S. 1927. The journals and letters of Major John Owens, pioneer of the Northwest, 1850-1871. Montana Historical Soc., Helena.
- Drumm, S.M., ed. 1920. Journal of a fur-trading expedition on the upper Missouri, 1812-1813, by John C. Lutting. Missouri Hist. Soc., St. Louis.
- Dunraven, Earl of. 1967. The great divide, travels in the upper Yellowstone in the summer of 1874. Introduction by Marshall Sprague. A Bison Book, Univ. of Nebraska Press, Lincoln. 377 pp. [A well written and illustrated book of a hunting trip into Yellowstone National Park but contains little natural history information.]
- Dunraven, Earl of. 1876. The Great Divide. Chatto and Windus. Piccadilly, London.
- Durant, M. and M. Harwood. 1980. On the road with John James Audubon. Dodd, Mead & Co., New York.
- Eide, I.H. 1969. American Odyssey: The journey of Lewis and Clark. Rand McNally, Chicago, IL.
- Eigenmann, Carl. H. 1894. Results of explorations in western Canada and the northwestern United States. Bull. U.S. Fish Comm., 14:101-132.

- Elliott, T.C. 1911. Peter Skene Ogden, fur trader. Oregon Hist. Quart. 2:229-278.
- Elliott, T.C. ed., 1914. Journal of 1824, John Work. Washington Historical Quarterly, 5.
- Elliott, T.C. ed., 1914. Journal of the Snake River Expedition of 1824 - Alexander Ross. Oregon Historical Quarterly 14
- Elliott, T.C. ed., 1909. Journal of the Snake River Expedition of 1825-6. Oregon Historical Quarterly, 10.
- Elliott, Thompson Coit. 1923. The Mullan Road: its local history and significance. Washington Historical Quarterly.
- Elliott, T.C. 1926. In the land of the Kootenai. Oregon Historical Soc. Press, Portland.
- Elman, R. 1977. First in the field: America's pioneering naturalists. Van Nostrand Reinhold, Ontario.
- Elrod, M.J. 1908. The Flathead buffalo range: a report to the American Bison Society of an inspection of the Flathead Indian Reservation, Montana, for the purpose of selecting a suitable location for a national buffalo range. American Bison Society.
- Elrod, M.J. 1901. Limnological investigations at Flathead Lake, Montana, and vicinity, July 1899. Trans. Amer. Microsc. Soc. 22:63-80.
- Elrod, M.J. 1901. The beauties of the Mission Range. Rocky Mountain Magazine. pp 623-631.
- Elrod, M.J. 1902. Biological reconnaissance in the vicinity of Flathead Lake. Bull. Univ. of MT, No. 10 Biological Series No. 3. Missoula. [The ornithological records in this publication are from publications by Silloway.]
- Elrod, M.J. 1903. The resources of Montana and their development. Montana Acad. Sci. 2nd annual meeting 15 pp.
- Elrod, M.J. 1904. Birds in their relation to agriculture. Reprint from 2nd ann. rept. Montana State Brd. of Farmers Institutes, pp 173-190; 197-208. Univ. of Montana, Missoula.
- Elrod, M.J. 1906. Butterflies of Montana with keys for determination of species. MSU B.30, Biol Ser. no. 10. Missoula. 174 pp. [Gives detailed descriptions, keys, and plates of butterflies in Montana. Also where they were found and collected.]

- Elrod, M.J. no date. The Montana National Bison Range. Univ. of Montana, Missoula.
- Elrod, M.J. no date. Collecting shells in Montana. Notes on *Pyramidula irodipils*, *Pyramidula strigosa*. 16 pp.
- Elrod, M.J. 1912. The lakes of Glacier National Park. Amer. Microscopical Soc.
- Elrod, M.J. 1912. Some lakes of Glacier National Park. Govt. Print. Off. pp 3-29.
- Elrod, M.J. The lakes of Glacier National Park I. Avalanche Lake. Univ. of Montana, Missoula.
- Elrod, M.J. The lakes of Glacier National Park II. Lake Louise. Univ. of Montana, Missoula.
- Elrod, M.J. 1924. Elrod's guide and book of information of Glacier National Park. 2nd ed.
- Emerson, W.O. 1902. In memorian: Dr. James G. Cooper. Condor 4:101-103.
- Engelmann, G. 1862. Plants collected during the exploration of the upper Missouri by F.V. Hayden in 1853. Trans. Amer. Philos. Soc. 12:182-212.
- Evermann, B.W. 1891. A reconnaissance of the streams and lakes of western Montana and northwestern Wyoming. Bull. U.S. Fish Comm.
- Evermann, B.W. 1892. Description of a new sucker *Pantosteus jordani* from the upper Missouri Basin. Bull. U.S. Fish Comm. 12:51-56.
- Evermann, B.W. 1894. Report of the Commissioner of Fish and Fisheries on the investigations in the Columbia River basin in regard to the salmon fisheries. Govt. Print. Off.
- Evermann, B.W. and U.O. Cox. 1896. A report upon the fishes of the Missouri River basin. U.S. Comm. of Fish and Fisheries, (1894) Part XX, p. 325-429.
- Evermann, B.W. 1896. A report upon salmon investigations in the headwaters of the Columbia River in the state of Idaho in 1895; together with notes upon the fishes observed in that state in 1894 and 1895. Govt. Print. Off.
- Ewan, J. 1950. Rocky Mountain naturalist. Univ. of Denver Press. Denver.

- Ewan, J. and N.D. Ewan. 1981. Biographical dictionary of Rocky Mountain naturalists: A guide to the writings and collections of botanists, zoologists, artists, and photographers, 1682-1932. Bohn, Scheltema & Holkema.
- Ewers, J.C., ed. 1959. Adventures of Zenas Leonard, fur trader. Univ. of Oklahoma Press, Norman.
- Ewers, J.C., ed. 1961. Five Indian tribes of the upper Missouri. Univ. of Oklahoma Press, Norman. 67 pp.
- Ferris, W.A. 1940. Life in the Rocky Mountains. The Old West Pub. Co.
- Flath, D.L. and T.W. Clark. 1986. Historic status of black-footed ferret habitat in Montana. in The Black-footed Ferret. Great Basin Naturalist Memoirs. Vol 8:63-71. [Contains information on early records of prairie dog colonies along the Yellowstone River.]
- Fletcher, R.H. 1960. Free grass to fences: The Montana cattle range story. New York Univ. for the Historical Soc. of Montana, New York. [Contains little natural history information.]
- Folsom, D.E. 1894. Folsom-Cook exploration of the upper Yellowstone in the year 1869. St. Paul, MN.
- Ford, A. ed. 1951. Audubon's animals: The quadrupeds of North America. Thomas Y. Crowell, New York.
- Ford, A. ed. 1969. Audubon by himself: A profile of John James Audubon from writings selected, arranged and edited by Alice Ford. The Natural History Press, Garden City, N.Y.
- Ford, L. Capt. 1926. Captain Ford's journal of an expedition to the Rocky Mountains. ed. by Louis Pelzer. Mississippi Valley Hist. Rev. vol. XII.
- Forest and Stream. 1876. Large game in the territories. 7(10):152.
- Forest and Stream. 1880. Large game of the west. 15(11).
- Forest and Stream. 1882. Destruction of large game. 18(7), 18(10):190, 18(15):289.
- Forest and Stream. 1882. Their last refuge. 19(20)382-383.
- Forest and Stream. 1884. Game and forests in the park. 21(25):494.

- Forest and Stream. 1885. Winter range in Yellowstone Park. 24:62, 228.
- Forest and Stream. 1887. Winter game notes from the park. 28(3):46.
- Forest and Stream. 1887. Winter wonderland: through the Yellowstone Park on snowshoes. 28(15):318-319.
- Forest and Stream. 1887. Winter conditions in the park. 28:46
- Forest and Stream. 1890. Effects of protection on elk of the national park. 35:84.
- Forest and Stream. 1892. Elk, Yellowstone National Park. 38:102, 539.
- Forest and Stream. 1897. Elk in Yellowstone Park. 48:1.
- Forest and Stream. 1908. Elk likely to starve in Yellowstone Park. 70:487,494.
- Forest and Stream. 1910. Natural winter range in the park. 74:492.
- Forrest, E.R. 1914. A list of birds observed in the Big Hole Basin, Montana. Oologist 31:194-197.
- Forsyth, J.W. and F.D. Grant. 1875. Report of an expedition up the Yellowstone River: made in 1875. War Dept., Govt. Print. Off., Washington, DC.
- Freyn, J. 1891. Plants of the Deer Lodge Valley. Deutsch. Bot. Monats. 8:73-79, 176-182.
- Frison, G.C. 1978. Prehistoric hunters of the high plains. Academic Press, New York.
- Frost, Donald McKay. Notes on General Ashley. (letters from Daniel T. Potts)
- Fryxtell, F.M. 1928. The former range of the bison in the Rocky Mountains. J. Mamm. 9:May.
- Gass, P. 1807. Journal of the voyages and travels of the corps of discovery under the command of Capt. Lewis and Capt. Clark of the United States from the mouth of the River Missouri through the interior parts of North America to the Pacific Ocean during the years 1804, 1805, 1806. 3rd ed. 1811. Philadelphia, PA. [Sergeant Patrick Gass accompanied Lewis and Clark on their travels across the Louisiana Territory.]

- Geiser, Samuel Wood. 1948. Naturalists of the frontier. Univ. Press, Southern Methodist Univ.
- Geyer, C.A. 1895. Notes on the vegetation and general character of the Missouri and Oregon Territories made during a botanical journey from the state of Missouri across the south-pass of the Rocky Mountains to the Pacific, during the years of 1843 and 1844. London Journal of Botany 4:479-492, 653-662; 5:22-41, 198-208, 285-310, 509-524.
- Gibbs, G. 1873. Physical geography of the north-western boundary of the United States. J. Amer. Geograph. Soc. N.Y. 3, 4.
- Gilbert, C.H. and B.W. Everman. 1895. A report upon investigations in the Columbia River Basin with descriptions of four new species of fishes. Bull. U.S. Fish Comm. (1894), 14:169-208.
- Gilbert, Edmund W. 1966. Exploration of western America, 1800-1850: An historical geography. Cooper Square Publishers New York. 233 pp. [This book contains detailed summaries of all major expeditions crossing the West during the first half of the 19th Century. It also provides regional descriptions of climate, geography, vegetation, wildlife, and water resources based on early accounts.]
- Girard, C. 1858. The fishes of the Pacific Railroad Survey. Pacific Railroad Reports, 10:1-400.
- Glover, R., ed. 1962. David Thompson's narrative, 1784-1812. The Champlain Soc., Toronto.
- Goetzmann, W.H. 1959. Army exploration in the American west 1803-1863. Yale Univ. Press, New Haven, CT.
- Goetzmann, W.H. 1967. Exploration and Empire: The explorer and the scientist in the winning of the west. Alfred A. Knopf, New York. [This and previous book by Goetzmann are excellent summaries of western exploration.]
- Goetzmann, W.H, D.C. Hunt, M.V. Gallagher, and W.J. Orr. Karl Bodmer's America. Univ. of Nebraska Press, Lincoln.
- Gooseman, Mildred; J.G. Lepley; & Mark Brown. 1970. The Missouri - timeless wilderness. Reprinted from Montana, magazine of western history. [Historical comparison photography against Bodmer's sketches of the upper Missouri River.]
- Gowans, F.R. 1985. Rocky Mountain Rendezvous. Peregrine Smith Book, Layton, UT. [Yearly summary of the fur trader's rendezvous; contains some natural history notes.]

- Gowans, F.R. 1986. Mountain man and grizzly. Mountain Grizzly Publications, Orem, UT. 210 pp. [Gowan has gleamed old journals for grizzly/human encounter and reprinted the best accounts. Many of these are in Montana.]
- Gray, A. 1860. Catalogue of the plants collected east of the Rocky Mountains. Pacif. Surv. 12, Pt. 2:40-49. Washington, DC.
- Griffen, R.A. David Meriwether, my life in the mountains and on the plains: The newly discovered autobiography. Univ. of Oklahoma Press, Norman.
- Grinnell, G.B. 1876. Zoological report. pp 68-89. in Report of a reconnaissance from Carroll, Montana to Yellowstone National Park and return. by William Ludlow, Govt. Print. Off. Washington, DC. Zoology 640-655.
- Grinnell, G.B. 1885-86. To the walled in lakes. Forest and Stream. December-March.
- Grinnell, G.B. Some autumn birds of the St. Mary Lakes region. Forest and Stream 30:365.
- Grinnell, G.B. 1901. The crown of the continent. The Century Magazine. September.
- Grinnell, G.B. 1892. The last of the buffalo. Scribner's Magazine. XII: September.
- Grinnell, G.B. 1898. Northern rocky mountain glaciers. Science, n.s., 8.
- Grinnell, G.B. 1923. The Cheyenne Indians. New Haven, CT.
- Grinnell, G.B. 1915. The fighting Cheyennes. New York.
- Grinnell, G.B. 1920. When buffalo ran. New Haven, CT.
- Grinnel, J. 1937. J.G. Cooper. Dictionary of American Biography 4:406-407.
- Gruell, G.E. 1983. Fire and vegetative trends in the northern Rockies: interpretations from 1871-1982 photographs. USDA Forest Service. Intermountain Forest and Range Experiment Station, Ogden, UT. General Technical Report INT-158.
- Gruell, G.E. 1986. Post-1900 mule deer irruptions in the intermountain west: principle cause and influences. USDA Forest Service. Intermountain Forest and Range Experiment Station, Ogden, UT. General Technical Report INT-206.

- Hafen, Leroy R. ed., 1965. The mountain men and the fur trade of the far west: biographical sketches of the participants by scholars of the subject and with introductions by the editor. Vol. I & II. Arthur H. Clark Co., California.
- Hafen, L.R. ed. 1983. Life in the Rocky Mountains, A diary of wanderings on the sources of the Rivers Missouri, Columbia, and Colorado 1830-1835. With supplementary writings and a detailed map of the fur country. The Old West Publishing Company, Denver, CO.
- Hafen, L.R., A.N. Hafen, eds. 1961. Powder River Campaigns and Sawyers Expedition of 1865. The Far West and Rockies Historical Series, 1820-1875. Arthur A. Clark Co., Glendale, CA. 396 pp.
- Haines, A.L., ed. 1955. Journal of a trapper. Oregon Historical Soc., Portland. 191 pp. [Journal of Osborne Russell].
- Haines, A.L. 1965. The valley of the upper Yellowstone: An exploration of the headwaters of the Yellowstone River in the year 1869. The journal of Charles W. Cook, David E. Folsom, and William Peterson. Univ. of Oklahoma Press, Norman. 80 pp. [This book contains an excellent bibliography detailing the sources for the reassembled journal].
- Hamilton, W.T. 1905. My sixty years on the plains. Forest and Stream Pub. Co., New York.
- Hamlin, K.L. 1976. Population ecology and habitat relationships of mule deer and white-tailed deer in prairie-agricultural habitat of eastern Montana. Pages 139-156 in Montana Deer Studies. Job Prog. Rep., Montana Dept. Fish, Wildlife, and Parks, Fed. Aid. Proj. W-120-R-7. 170 pp. [Contains some information on the early history of deer near Terry.]
- Hamlin, K.L. 1989. Mule deer in the Missouri River Breaks, Montana; a study of population dynamics in a fluctuating environment. Montana Dept. Fish, Wildlife, and Parks. 401 pp. [This paper contains information on the early history of deer in this area.]
- Hampton, H.D. 1971. How the U.S. Cavalry saved our national parks. Bloomington.
- Harmon, D.W. 1820. A journal of voyages and travels in the interior of North America. Andover. [Harmon spent 19 years (1800-1819) in the interior as an employee of the Northwest Company. Although he did not enter Montana, (Athabaska River and British Columbia closest approach), his journal is a source of information concerning the country, means of

transportation, and the manner of carrying on trade.]

- Harris, B. 1952. John Colter: His years in the Rockies. Scribner, New York.
- Harris, E. 1845. Description of a new species of *Parus* from the upper Missouri. Nat. Sci. Phila. 2:300-301.
- Harris, E. 1851. List of birds and mammals found on the Missouri River from Fort Leavenworth to Fort Union, at the mouth of the Yellowstone River. (reprinted in McDermott 1950).
- Harris, M. 1887. The large game in the (Yellowstone) National Parks. Amer. Field. 27:32
- Harris, W.P. and C.W. Harris. 1904. Lichens and mosses of Montana. Bull. Univ. Mont. 19:308-330.
- Havard, V. 1878. Botanical outlines of the country marched over by the Seventh United States Cavalry during the summer of 1877. in Annual report of chief of engineers, U.S. Army for 1878. Vol. II, part III. Appendix QQ pp. 1681-1687. U.S. Govt. Print. Off.
- Havard, V. 1880. List of plants found on the plains of western Dakota and eastern Montana during the summer of 1877 and spring 1879. in Annual report of chief of engineers, U.S. Army for 1880. Appendix SS pp. 1-20. Washington, DC.
- Hayden, F.V. 1858. Plants collected during the exploration of the Upper Missouri by F.V. Hayden. Rept. Sec. War for 1858. 2:726-747.
- Hayden, F.V. 1858. Catalogue of the collections in geology and natural history obtained by the expedition under command of Liet. G.K. Warren. in Preliminary report of explorations in Nebraska and Dakota in the years 1855,56,58. U.S Govt. Print. Off., Washington, DC.
- Hayden, F.V. 1859. Geological sketch of the estuary and fresh water deposits forming the bad lands of the Judith River, with some remarks upon surrounding formations. W.S. Young.
- Hayden, F.V. 1862. Contributions to the ethnography and philology of the Indian tribes of the Missouri valley. C. Sherman & Sons.
- Hayden, F.V. 1862. On the geology and natural history of the upper Missouri. Trans. of the Amer. Philosophical Soc. new series 12:1-183.

- Hayden, F.V. 1869. Geographical report of the exploration of the Yellowstone and Missouri Rivers under the direction of Captain W.F. Reynolds, Corps of Engineers, 1859-60. U.S. Govt. Print. Off., Washington, DC.
- Hayden, F.V. 1872. Fifth annual report of progress. U.S. Geological Survey of Montana and portions of adjacent territories. U.S. Govt. Print. Off., Washington, DC.
- Hayden, F.V. 1873. Sixth annual report of the U.S. Geological Survey of the Territories embracing portions of Montana, Idaho, Wyoming, and Utah: being a report of progress of the explorations of the year 1872. Govt. Print. Off.
- Hayden, F.V. 1875. Catalogue of the collection in geology and natural history . G.K. Warren's preliminary report of explorations in Nebraska and Dakota in the years 1855-56-57. pp. 61-95. Reprint from report to the Secretary of War pp. 673-711.
- Hayden, F.V. 1877. Eleventh annual report of the United States Geological and Geographical Survey of the Territories: embracing Idaho and Wyoming: being a report of the progress of the exploration for the year 1877.
- Hayden, F.V. 1878. Twelfth annual report of progress. U.S. Geological Survey of Montana and portions of adjacent territories. U.S. Govt. Print. Off., Washington, DC.
- Hazlitt, R., ed. 1934. The journal of Francois Antoine Larocque from the Assiniboine River to the Yellowstone River - 1805. Univ. of Montana historical reprint no. 20, Missoula. 26 pp.
- Heldt, F.G. 1876. Sir George Gore's Expedition. Montana Historical Soc. Contributions. State Publishing Company, Helena. Vol. I:144-148.
- Heller, E. 1925. Big game animals of Yellowstone National Park.
- Henderson, J.G. 1872. The former range of the buffalo. Amer. Nat. 7. [An interesting account of bison range contraction. The majority of the paper deals with bison along the Mississippi River.]
- Henry, A. and D. Thompson. 1897. New light on the early history of the greater Northwest. ed. E. Coues. 3 Vols. Francis P. Harper, New York.
- Henshall, J.A. 1894. List of the fishes of Montana. Univ. of Montana Bull. #34. Missoula. [Gives detailed descriptions of species of fish, habits, and habitats with general notes

on locations].

- Henshall, J.A. 1907. Culture of the Montana grayling. Bureau of fisheries document #628. 7 pp. [Brief history (1800s) of grayling, with species description, habits, habitat and locations found in Montana. Also has information on propagation].
- Herrick, F.H. 1917. Audubon the Naturalist: A history of his life and times. 2 vols. D. Appleton & Co. New York.
- Hind, H.Y. 1860. Narrative of the Canadian Red River Exploring Expedition of 1857 and the Assiniboine and Saskatchewan Expedition of 1858. 2 vols. London.
- Hofer, E. 1887. Number of elk estimated to be in Yellowstone. Forest and Stream 28:319.
- Hoffman, W.J. 1885. Bird names of the Selish, Pah-uta, and Shoshoni Indians. Auk 2:7-10.
- Holmgren, E.J. 1976. Thomas Blakiston, explorer. Alberta History 24:15-22.
- Holzinger, J.M. 1900. Lake McDonald and vicinity. Bull. Amer. Bur. Geography 1, No. 3 September
- Hooker, W.J. 1847-1856. Catalogue of Mr. Geyer's collection of plants gathered in the Upper Missouri, the Oregon Territory, and the intervening portion of the Rocky Mountains. London Jour. Bot 6:65-79; Hooker's Jour. Bot. 3:287-300; 5:257-265; 7:371-378; 8:16-19.
- Hopwood, V.G., ed. 1971. David Thompson's travels in western North America, 1784-1812. MacMillan. Toronto.
- Hornaday, W.T. 1887. Buffalo hunt.
- Hornaday, W.T. 1889. The extermination of the American bison, with a sketch of its discovery and life history. Pages 367-548 in Part 2[1889]. Rep. U.S. Natl. Mus., 1886-87.
- Hornaday, W.T. 1908. Diversions in picturesque game-lands, grand bad-lands and mule deer. Scribner's July 1908.
- Hornaday, W.T. 1910. America's next great playground. Recreation, Sept.
- Hough, E. 1894. Forest and Stream's Yellowstone Park game exploration. Forest and Stream, XLIII, May 5 to August 25.
- Hulbert, A.B. 1934. The call of the Columbia. Denver, CO.

[Contains a reprint of Wyeths 1832 journal.]

- Hume, E.E. 1942. Ornithologists of the United States Army Medical Corps. John Hopkins Press, Baltimore, MD. [A detailed biography of ornithologists serving in the U.S. Army as surgeon/naturalists.]
- Humfreville, J.L. 1903. Twenty years among our hostile Indians. Hunter & Co., New York.
- Irving, W. 1836. Astoria, Anecdotes of an enterprise beyond the Rocky Mountains. Carey, Lee, & Blanchard, Philadelphia, PA.
- Irving, W. 1837. The Rocky Mountains. Carey, Lee, & Blanchard, Philadelphia, PA.
- Irving, W. 1944. The western journals of Washington Irving. Edited by J. F. McDermott. Univ. Oklahoma Press, Norman. [Although Irving did not enter Montana, his journals are well written and contain considerable natural history information about the West including the Oregon trail.]
- Jackson, C.S. 1947. William Henry Jackson. Picture maker of the Old West. Scribner. 308 pp.
- Jackson, W.H. 1940. Time exposure. Putnams
- Jackson, W.T. 1942. Governmental exploration of the upper Yellowstone, 1871. Pacific Historical Review 11:188-189.
- Jenkins, A.K. 1979. The naturalists: Pioneers of natural history. Nelson, Toronto.
- Jenney, W.P. 1876. The mineral wealth, climate, rainfall, and natural resources of the Black Hills of Dakota. 44th. Cong., 1st. sess., Sen Exec. Doc. 51.
- Johnson, D.R. 1969. Returns of the American Fur Company, 1835-1839. J. Mamm., 50:836-839.
- Jones, L. and W.L. Dawson. 1900. A summer reconnaissance in the west. Wilson Bull. No. 33. 39 pp. [Contains lists of birds seen between Thompson Falls and Bozeman and between Billings and Miles City.]
- Jones, T. 1909. The last of the buffalo, a history of the buffalo herd on the Flathead Reservation, and an account of the great round up. Cincinnati, OH.
- Jones, W. A. 1875. Report upon the reconnaissance of northwestern Wyoming, including Yellowstone Park, made in the summer of 1873. Govt. Print. Off., Washington, DC.

- Jones, W.W. 1901. Preliminary flora of Gallatin County. 78 pp.
- Jordan, D.S. 1889. A reconnaissance of the fishes of Yellowstone National Park, Wyoming in the interest of the U.S. Fish Commission. U.S. Fish Comm. Bull. 9:41-63.
- Jordan, D.S. 1891. Report on the collection of fishes made by Dr. Elliott Coues U.S.A. in Dakota and Montana during the seasons of 1873 and 1874. Bull. U.S. Geol. and Geog. Surv. of the Territories (F.V. Hayden in charge), 4(4):777-799.
- Kastner, J.A. 1977. A species of eternity. Alfred A. Knopf, New York.
- Kelsey, F.D. 1899. Notes on the fungi of Helena, Montana. Mycology 5:80-82.
- Kendall, W.C. 1915. Fishes of Yellowstone National Park. Bur. Fish. Doc. no. 818
- Kennerly, W.C. and E. Russell. 1949. Persimmon Hill, a narrative of old St. Louis and the far West. Univ. of Oklahoma Press, Norman.
- Kidder, J. 1965. Montana Miracle: it saved the buffalo. Montana, the Magazine of Western History. XV spring.
- Klotz, O. 1917. The history of the forty-ninth parallel survey west of the Rocky Mountains. Geographical Review 3:383-387.
- Knight, G.C. 1989. Ecological and cultural prehistory of the Helena and Deerlodge National Forests. USDA Publ.
- Knight, W. 1902. The birds of Wyoming. Bulletin 55, Wyoming Exper. Sta. 174 pp.
- Koch, E. 1941. Big game from early historical records. J. Wildl. Manage. 5:357-70. [A good synthesis of big game in Montana during the 1800s.]
- Koch, P. 1929. Journal of Peter Koch. The Frontier, Missoula, MT., Vol. 9, No. 2, January 1929.
- Kurz, R.F. 1937. Journal of Rudolph Friedrich Kurz; an account of his experiences among fur traders and American Indians on the Mississippi and upper Missouri Rivers during the years 1846-1852. Trans. by M. Jarrell. Edited by J.N.B. Hewitt. U.S.G.P.O. Bulletin 115 Smithsonian Institution, Bureau of American Ethnology. Washington, DC.
- Langford, N.P. 1972. Discovery of Yellowstone Park. Diary of

- the Washburn expedition to the Yellowstone and Firehole River in the year 1870. Univ. of Nebraska Press, Lincoln. 125 pp.
- Lanham, U.N. 1973. The bone hunters. Columbia Univ. Press. New York.
- Laut, A.C. 1914. The Switzerland in America. Amer. Forestry, Dec.
- Leiberg, J.B. 1884. Notes on the flora of western Dakota and eastern Montana adjacent to the Northern Pacific Railroad. Bot. Gaz. 9:103-107; 126-129.
- Leiberg, J.B. 1897. General report on a botanical survey of the Coeur d' Alene Mountains in Idaho during the summer of 1895. Contributions from the U.S. National Herbarium vol. 5, no. 1, 85 pp. Govt. Print. Off., Washington, DC.
- Leiberg, J.B. 1898. Forestry of the Bitterroot Reserve. U.S. Geol. Surv. 19th Ann. Rep. 5:253-282.
- Leiberg, J.B. 1899. The Priest River Forest Reserve. Govt. Print. Off., Washington, DC. pp. 217-252.
- Leiberg, J.B. 1900. The Bitterroot Forest Reserve. Govt. Print. Off., Washington, DC. pp. 317-410.
- Leiberg, J.B. 1904. Little Belt Mountains Forest Reserve, Montana and the Belt Mountains quadrangle. Prof. Pap. No. 30 Denver, CO. U.S. Dept. of the Int., Geol. Sur. 1-75.
- Leiberg, J.B. 1904. Forest conditions in the Absaroka division of the Yellowstone forest reserve, Montana, and the Livingston, and Big Timber quadrangles. Govt. Print. Off. Geological Survey Professional Paper. 148 pp.
- Leidy, J. 1848. On a new fossil and species of ruminatoid Pachydermata: *Merycoidodon culbertsonii*. Acad. Nat. Sci. Philadelphia, Proc. vol. 4. pp. 47-50.
- Leidy, J. 1854. The ancient fauna of Nebraska: or a description of remains of extinct mammalia and Chelonia, from the Mauvaises Terres of Nebraska. Smithsonian Contr. Knowl. vol. 6, 126 pp.
- Leonard, Zenas. 1904. Leonard's narrative: adventures of Zenas Leonard, fur trader and trapper, 1831-1836; reprinted from the rare original of 1839. ed. W.F. Wagner. Burrows Brothers Co.
- LeRaye, C. 1926. The journal of Charles LeRaye. South Dakota

Historical Collections. IV, 150-180.

- Lewis, M. 1959. David Thompson, and the Lewis and Clark expedition; an unpublished account of the Lewis and Clark expedition. Library Press. 14 pp.
- Lewis, W.S. and P.C. Phillips, ed. 1923. The journal of John Work, a chief-trader of the Hudson's Bay Co., during his expedition from Vancouver to the Flatheads and Blackfeet of the Pacific Northwest. The Arthur H. Clark Co., Cleveland, OH.
- Link, L.W. 1964. The Lewis and Clark Expedition: From St. Louis, Missouri to Pacific Ocean and return, with particular reference to the Upper Missouri and Yellowstone Rivers.
- Lord, J.K. 1866. The naturalist in Vancouver Island and British Columbia. 2 vols. Richard Bentley, London.
- Lord, J.K. 1876. At home in the wilderness: What to do there and how to do it: A handbook for travellers and emigrants. Hardwicke and Rogue, London.
- Lucy, D.M. 1990. Photographing Montana: the life and work of Evelyn Cameron. Alfred A. Knopf, Inc. [This book contains the photos and diary of Evelyn Cameron]
- Ludlow, W. 1876. Report on a reconnaissance from Carroll, Montana Terr. on the upper Missouri to the Yellowstone National Park and return, made in the summer of 1875. War Dept., Washington, DC.
- Lyall, D. 1863. Account of the botanical collections made by David Lyall, M.D., R.N., F.L.S., Surgeon and Naturalist to the North American Boundary Commission. Journal of the Linnaean Soc. of London 7:124-144.
- McChesney, C.E. 1879. Report on the mammals and birds of the general region of the Bighorn River and Mountains of the Montana Territory. Report of the Chief of Engineers, U.S. Army. Appendix SS3. [The only early list of birds from this section of the State which also includes birds found in the mountains.]
- McConnell, R.G. 1885. Report on the Cypress Hills and adjacent country: Embracing that portion of the district of Assinibia, lying between the international boundary and the 51st parallel and extending from lon. 106° and 110° 50'. [Report primarily deals with the geology of the region but also includes a brief description of the habitat and includes old photographs.]
- McDermott, J.F., ed. 1950. Journal of an expedition to the

Mauvaises Terres and the upper Missouri in 1850 by Thaddeus Culbertson. Smithsonian Institution Bulletin on American Ethnology 147:1-145.

- McDermott, J.F., ed. 1951. Up the Missouri with Audubon, by Edward Harris. Univ. of Oklahoma Press, Norman. [This is Harris' account of Audubon's expedition to Fort Union. It contains natural history information for the region]
- McDermott, J.R., ed. 1956. A tour of the prairies. Univ. of Oklahoma Press, Norman.
- McDermott, J.F., ed. 1965. Audubon in the west. Univ. of Oklahoma Press, Norman.
- McDonnell, A. ed. 1940. The Fort Benton Journal, 1854-1856, and the Fort Sarpy Journal, 1855-1856. Mont. Hist. Contr., vol. 90.
- MacDougal, D.T. 1892. Recent botanical exploration in Idaho. Science n.s. 20:311-313
- McFarling, L. 1955. Exploring the northern plains, 1804-1876. Caxton, Caldwell, ID.
- McKelvey, S.D. 1955. Botanical explorations of the trans-Mississippi west, 1790-1850. Arnold Arboretum of Harvard Univ., Jamaica Plain, MA. [An authoritative documentation of western botanical explorations.]
- Magaret, H. 1940. Father DeSmet, pioneer priest of the Rockies. Farrar and Rinehart, New York.
- Malouf, C. and S. Conner, eds. 1962. Symposium on buffalo jumps. Montana Archaeological Society, Memoir, No. 1.
- Mathews, A.E. 1868. Pencil sketches of Montana...31 lithographic plates. New York. published by the author 95 pp.
- Martinka, C.J. 1974. Ecological role and management of grizzly bears in Glacier National Park, Montana. Proc. 3rd. International Conference on Bears - Their Biology and Management. Binghamton, New York. 147-156
- Marcy, R.B. 1866. Thirty years of army life on the border. Harper & Brothers, New York. 442 pp.
- Marsh, J.B. 1884. Four years in the Rockies; or the adventure of Issac P. Rose, of Shenango Township, Laurence County, Pennsylvania. New Castle, PA., Printed by W.B. Thomas. 262 pp.

- Matthes, F.E. 1904. The Alps of Montana. Appalachia, April.
- Maximillian, Prince of Wied. 1843. Travels in the interior of North America. Ackermann & Co., London.
- Maximillian, Alexander Phillip von. 1976. Travels in the interior of North America. Dutton, New York.
- Mearns, E.A. 1904. Birds of Fort Custer, Montana. Condor 6:20-21.
- Meehan, T. 1898. The plants of the Lewis and Clark Expedition across the continent, 1804-1806. Proc. Acad. Sci. Phila. Jan 1898:12-49
- Meisel, Max. 1924. A bibliography of American natural history; the pioneer century, 1769-1865; the role played by the scientific societies; scientific journals; natural history museums and botanic gardens; state geological and natural history surveys. Premier publishing Co.
- Mengarini, G. 1938. Mengarini's narrative of the Rockies, memoirs of old Oregon, 1841-1850, and St. Mary's mission. ed. A.J. Partoll. Sources of NW history: no. 25. [An account of establishing St Mary's Mission in the Bitterroot Valley. Contains a good account of the abundance of salmon near Fort Hall and bison abundance in the prairies.]
- Merk, F. 1931. Fur trade and empire. Cambridge.
- Merk, F. ed. 1934. P.S. Ogden to the Governor, chief factors and chief traders, July 10, 1825. Mississippi Valley Historical Review 21.
- Merriam, C. H. 1873. Sixth Annual Report of the U.S. Geological Survey of the Territories, by F.V. Hayden. Birds pp. 670-704. [An important list of birds containing a number of records from Ft. Ellis and the Madison River]
- Merriam, Clinton Hart, V. Bailey. 1891. Biological reconnaissance of south-central Idaho. Govt. Print. Off.
- Merrill, G.P. 1969. The first one hundred years of American Geology. Lubrecht and Cramer, Foresburh, N.Y.
- Merrill, J.C. 1881. Oological notes from Montana. Bull. Nutt. Orn. Club 6:203-207. [Nesting of the red-naped sapsucker, junco, Audubon warbler, mountain chickadee, and ruby-crowned kinglet.]
- Merril, J.C. 1888. Notes on the birds of Fort Klamath, Oregon. Auk 5:139-146.

- Merril, J.C. 1897-1898. Notes on the birds of Fort Sherman, Idaho. Auk 14:347-357. [These last two papers contain some observations of birds in Montana.]
- Mershon, W.B. 1923. Recollections of my 50 years of hunting and fishing. Boston, MA. 259 pp.
- Mershon, W.B. 1925. Notes on hunting conditions in North Dakota in the '80s. Bien. Rpt. State Game and Fish Comm. N.D. 1923-24. 8 pp.
- Messiter, C.A. 1890. Sport and adventure among the North American Indians. R.H. Porter, London. 368 pp.
- Milner, J.W. no date. Notes on the grayling of North America, and descriptions of new species of *Coregonus* and *Argyrosomus*. 20 pp.
- Mitchell, G.E. 1910. A new national park. Natl. Geographic, 18.
- Mitten, W. 1864. The bryologia of the Survey of the 49th parallel of latitude. Jour. Linnaean Soc. 8:13-55.
- Montana Historical Society. 1876 to 1910. Volumes 1 to 7. Helena, MT.
- Morgan, D.L. 1954-1955. Journal of William H. Ashley. Missouri Historical Soc. Bulletin, Vol. 11 #1-3
- Morgan, D.L. 1964. The west of William H. Ashley. Denver, CO.
- Morgan, D.L. 1953. Jedediah Smith. Indianapolis, IN.
- Morgan, L.H. 1959. The Indian journals. Univ. Michigan Press, Ann Arbor.
- Muir, J. 1898. The wild parks and forest reservations of the west. Atlantic Monthly, Jan.
- Mullan, J. 1855. Report of an exploration from Fort Benton to the Muscle Shell River, and thence by the southern Little Blackfoot River to the St. Mary's River. in: Stevens, I.I., compiler. Report of exploration of a route for the Pacific Railroad-Governor Stevens' report to the Secretary of War. Senate Executive Document 78, 33rd Congress, 2 Sess., v.1. U.S. Govt. Print. Off., Washington, DC.
- Mullan, J. 1855. Report of a reconnaissance from the Bitter Root Valley to Fort Hall and back. in: Stevens, I.I., compiler. Report of exploration of a route for the Pacific Railroad-Governor Stevens' report to the Secretary of War.

Senate Executive Document 78, 33rd Congress, 2 Sess., v.1.
U.S. Govt. Print. Off., Washington, DC.

- Mullan, J. 1861. Report of Lieutenant Mullan, in charge of the construction of the military road from Fort Benton to Fort Walla Walla. 36th Congress, 2 Sess., House Executive Document 44. U.S. Govt. Print. Off., Washington, DC.
- Mullan, J. 1863. Report on the construction of a military road from Ft. Walla Walla to Ft. Benton. Govt. Print. Off., Washington, DC.
- Mullan, J. 1863. Report of a reconnaissance from the Coeur d'Alene Mission to Thompson's prairie....thence across the mountain to the Bitter Root River...and over the high divide to the Ten-Mile prairie, of the Couer d'Alene River. in: Report on the Construction of a Military Road From Fort Walla-Walla to Fort Benton. by Cap. John Mullan. Washington, DC.
- Mullan, J. 1865. Miners' and Travelers' guide to Oregon, Washington, Idaho, Montana, Wyoming, and Colorado via the Missouri and Columbia Rivers accompanied by a general map of the mineral regions of the northern sections of the Rocky Mountains. Wm. M. Franklin, New York.
- Mumey, N. Life of Jim Baker. Montana Historical Society. [Contains some natural history notes on the Bear Paw Mountains, Milk, Musselshell, and Bighorn Rivers.]
- Murphy, J.M. 1879. Rambles in northwestern America from the Pacific Ocean to the Rocky Mountains. Chapman & Hall, London. 364 pp.
- Murphy, J.M. 1879. Sporting adventures in the far west. Sampson, Low, Marston, Searle, & Riverton, London. 404 pp.
- Muttkowski, R.A. 1925. Food of trout in Yellowstone National Park. Roosevelt Wildl. Bull. 2:470-497.
- Muttkowski, R.A. 1929. Ecology of trout streams in Yellowstone National Park. Roosevelt Wildl. Ann. 2:151-240.
- Nasatir, A.P. 1931. John Evans: explorer and surveyor. Missouri Historical Review, XXV 436-441.
- Nasatir, A.P. 1952. Before Lewis and Clark. Documents illustrating the history of Missouri 1785-1804. St. Louis Historical Documents Foundation, St. Louis, MO. 375 pp.
- Nelson, A. 1900. The flora of Montana. Bot. Gaz. 30:61-64

- Nelson, A. 1902. An analytic key to some of the common flowering plants of the Rocky Mountain region. D. Appleton & Co. 94 pp.
- Newberry, J.S. 1884. Notes on the geology and botany of the country bordering the Northern Pacific Railroad. Ann. N.Y. Acad. Sci. 3:242-270.
- Newton, H. and W.P. Jenny. 1880. Report on the geology and resources of the Black Hills of Dakota, with Atlas. Washington, DC.
- Newton, H. 1880. Historical sketch of explorations in the Upper Missouri region. in U.S. Geogr. and Geol. Surv. Rocky Mountain Region, Geology of the Black Hill of Dakota. Washington, DC.
- Nicollet, J.N. 1845. Report intended to illustrate a map of the hydrographical basin of the upper Mississippi River. H.R. Doc. 52, 28th Congr., 2nd Sess.
- Nitske, W.R. and S. Littinville, eds. 1973. Travels in North America, 1822-1844. Univ. of Oklahoma Press, Norman.
- Norris, J.P. 1888. A series of eggs of *Oroscoptes montanus*. Orn. and Ool. 8:162.
- Norton, G.P. 1919. Shore vegetation of Flathead Lake, Montana. Plant World 22:355-362
- Nuttall, T. 1813. A catalogue of new and interesting plants collected in Upper Louisiana and principally on the river Missouri, North America. Reprint in Pittonia, 2:116-119
- Nuttall, T. 1834. A catalogue of a collection of plants made chiefly in the valleys of the Rocky Mountains or Northern Andes towards the source of the Columbia River, by Mr. Nathaniel B. Wyeth, and described by T. Nuttall. Journal of the Academy of Natural Sciences of Philadelphia 7:1-60.
- Oberholser, H.C. 1905. The forms of *Vermivora celata* (Say). Auk 22:242-247. [Contains a number of Montana records.]
- Oberholser, H.C. 1907. A new *Agelaius* from Canada. Auk 24:332-336. [Contains Montana records of this species.]
- Oberholser, H.C. 1914. A monograph of the Genus *Chordeiles* Swainson, type of a new family of goatsuckers. Bull. 86, U.S. National Museum 131 pp. [Cites a number of Montana records of different forms.]

- O'Hara, C.C. 1900. A history of the early explorations and of the progress of geological investigations in the Black Hills region. South Dakota School of Mines, Rapid City. Bull. No. 4 7-44.
- Owen, D.D. 1852. Report of a geological survey of Wisconsin, Iowa, & Minnesota and incidentally of a portion of Nebraska Territory. Philadelphia, PA. [Contains geologic report by Dr. Evans for the western Dakotas.]
- Palliser, John. 1853. Solitary rambles and adventures of a hunter in the prairies. John Murray, London.
- Palliser, John. 1856. The solitary hunter; or, Sporting adventures in the prairies. G. Routledge & Co.
- Palliser, J. 1863. The journals - detailed reports and observations relative to the explorations of that portion of British North America which lies between the British boundary line and the height of land or watershed of the northern or frozen ocean respectively and a longitude between the western shore of Lake Superior and the Pacific Ocean during the years 1857, 1858, 1859, 1860. London.
- Palliser, J. 1860. Exploration - British North America (microform). Further papers relative to the exploration by the expedition under Captain Palliser of that portion of British North American which lies between the northern branch of the river Saskatchewan and the frontier of the United States. Eyre and Spottswode, for H.M. Stationery Off., London.
- Palmer, T.S. 1912. Chronology and index of the more important events in American game protection, 1776-1911. U.S. Dept. of Agr., Biological Survey Bulletin, No. 41. Washington, DC.
- Parkman, F. 1902. The Oregon Trail. Boston. [Parkman did not enter Montana but his journal contains considerable natural history information of the Oregon Trail.]
- Parry, C.C. 1874. Botanical observations in western Wyoming. with notices of rare plants and descriptions of new species collected on the route of the Northwestern Wyoming Expedition under Capt. W.A. Jones. Amer. Nat. 8:9-14, 102-108, 175-180, 211-215
- Patten, J.I. 1926. Buffalo hunting with the Shoshone Indians in 1874. Annals of Wyoming, IV, October.
- Peale, T. and C. Pickering. 1848. 1838-1842 Wilkes Expedition or U.S. Exploring expedition - Charles Wilkes. Mammalia &

Ornithology Vol. 8.

- Phillips, P.C. and W. Lewis, eds. 1923. The journal of John Work. Cleveland, OH.
- Phillips, P.C. 1934. William Henry Vanderburg, fur trader. Mississippi Valley Historical Review. 21 #3 377.
- Phillips, P.C. ed. 1957. Forty years on the frontier as seen in the journals and reminiscences of Granville Stuart. vol 1. The Arthur Clark Co., Glendale, CA.
- Picton, H.D. and I.E. Picton. 1975. Saga of the Sun: a history of the Sun River elk herd. Montana Dept. of Fish and Game, Helena. 55 pp. [Contains historical information on elk in this area.]
- Point, N.S.J. 1931. Journey in a barge on the Missouri from the Fort of the Blackfeet to that of the Assiniboines. Edited by G.J. Garrahan, S.J. Mid-America, vol. 13, pp. 236-254.
- Point, N. 1967. Wilderness kingdom, Indian life in the Rocky Mountains: 1840-1847, the journals and paintings of Nicolas Point, S.J. Translated and introduced by J.P. Donnelly, S.J. New York.
- Porter, M.R. and O. Davenport. 1963. Scotsman in Buckskin. New York.
- Porter, T.C. 1851. List of plants collected by Mr. T.A. Culbertson on an expedition to the Mauvaises Terres and upper Missouri in 1850. Fifth Annual Report. Smithsonian Institution, Washington, DC. 1851:133-136. [Reprinted in McDermott 1950.]
- Porter, T.C. 1872. Catalogue of plants collected during the expedition to the headwaters of the Yellowstone River in 1871. Hayden Surv. 1871:477-498. Washington, DC.
- Porter, T.C. 1851. List of plants collected by Mr. Culbertson. Fifth Annual Report. Smithsonian Institution, Washington, DC. 1851:133-136.
- Potts, D.T. 1824. Letter Thomas Cochlen, July 7, 1824. Yellowstone National Park Museum Collection, Albright Visitor Center, Mammoth, WY.
- Powell, J.W. 1889. Ferdinand Vandiveer Hayden. Ninth Annual Report of the U.S. Geological Survey to the Secretary of the Interior, 1887-1888. U.S. Govt. Print. Off., Washington, DC.

- Pursh, F. 1814. *Flora americana septentrionalis*; or, A systematic arrangement and description of the plants of North America; containing, besides what have been described by preceding authors many new and rare species collected during twelve years of travels and residence in that country. 2 vols. White, Cochrane & Co.
- Pyfer, A.M. 1897. The nesting of Clarke's Nutcracker. *Oologist* 14:100-101.
- Pyfer, A.M. 1898. Birds of Montana. *Oologist* 15:14-16. [A short list of birds observed near Salesville in the Gallatin Valley.]
- Quaife, M.M. ed. 1915. Extracts from Capt. McKay's Journal - and others. *Wisconsin Historical Soc. Proc.*, LXII. 195 pp.
- Quaife, M.M. ed. 1928. *Yellowstone Kelly, the memoirs of Luther S. Kelly*. Yale Univ. Press, New Haven, CT. 268 pp.
- Quivey, A.D. 1966. The Yellowstone expedition of 1874. *Contributions to the Historical Soc. of Montana*. 268-284.
- Raynolds, W.F. 1868. Report on the exploration of the Yellowstone and Missouri Rivers in 1859-1860. Senate Executive Document 77, 40th Congress 2nd Sess. 1317. Govt. print. Off., Washington, DC. 174 pp.
- Reid, R. and Gannon, C.G. 1929-30. Journal of the Atkinson-O'Fallon Expedition. *N. Dak. Hist. Quart.* 4:5-56.
- Rich, E.E. 1950. *Peter Skene Ogden's Snake country journal*. Hudson's Bay Record Society, London.
- Richardson, J. 1873. *Wonders of the Yellowstone*. Scribner, Armstrong, & Co., New York.
- Richmond, C.W. and Knowlton, F.H. 1894. Birds of south-central Montana. *Auk* 11:298-308. [An important list of birds found in Gallatin and Park Counties.]
- Ridgeway, R. 1898. New species, etc., of North American birds. - II. *Fringillidae*. *Auk* 15:319-324. [Contains Montana records.]
- Roberts, J. 1977. *The amazing adventures of Lord Gore*. Sundance Publishing Co. Silverton, CO. [Reconstructed journal of Gores expedition.]
- Roberts, T.P. 1902. *The upper Missouri River, from a reconnaissance made in 1872*. *Contributions to the Historical Soc. Montana*. vol 1, 2nd ed. Independent

Publishing Company, Helena, MT. [Contains some good natural history notes such as 8,533 cfs flow in the River during mid-July at the 3-forks.]

- Robinson, W. 1907. Mammals - a partial list of the fauna of the Yellowstone National Park. MS deposited in the Roosevelt Wildl. Forest Experiment Station in 1924.
- Rodgers, Andrew Denny III. 1944. John Merle Coulter, Missionary in Science. Princeton Univ. Press, New Jersey. 321 pp. [This book is a biography of Coulter, a botanist, who was with the Hayden expedition to Yellowstone National Park in 1872.]
- Roll, T.E. et al. 1980. The Bootlegger Trail Site: A late prehistoric bison kill. Heritage Conservation & Recreation Service, Washington, DC.
- Rollins, P.A. 1935. The discovery of the Oregon Trail. New York.
- Roosevelt, T. 1886. Hunting trips of a ranchman. G.P. Putnam's Sons, New York.
- Roosevelt, T. 1893. American big game hunting.
- Roosevelt, T. 1893. Wilderness hunting.
- Roosevelt, T. 1897. Trail and Camp-fire .
- Roosevelt, T. 1899. Big game hunting in the Rockies and on the Great Plains.
- Roosevelt, T. et al. 1902. The deer family. MacMillan & Co., London.
- Ronan, P. 1890. Historical Sketch of the Flathead Indian nation. Helena, MT.
- Rose, J.N. 1890. Notes on some western Plants. Bot. Gaz. 15:63-66.
- Ross, A. 1913. Journal of Flathead Post in 1825. Oregon Historical Quarterly, 14
- Ross, A. 1849. Adventures of the first settlers on the Oregon or Columbia River. London.
- Ross, A. 1855. The fur hunters of the far West. 2 vols. Smith, Elder, & Co., London.
- Russell, I. 1885. Glaciers. U.S. Geological Survey, 5th Ann.

Rpt.

- Rust, H.J. 1917. An annotated list of birds of Fremont County, Idaho as observed during the summer of 1916. Condor 19:29-43.
- Rydberg, P.A. 1900. Catalogue of flora of Montana and Yellowstone National Park. Mem. N.Y. Bot. Gard. 1:1-492.
- Rydberg, P.A. 1917. Flora of Rocky Mountains and adjacent plains.
- Rydberg, P.A. and C.L. Shear. 1897. A report upon the grasses and forage plants of the Rocky Mountain region. Bull. U.S. Dept. Agr. Div. Bot. 5:1-48.
- Sage, R.B. 1859. Rocky Mountain Life; or, startling scenes and perilous adventures in the far West. E. Candy. 363 pp. [This book contains a narrative possibly based on journal notes of Sage's travels during the 1840s. He did not enter Montana but traveled through parts of Wyoming, Idaho, and the Dakotas. The book contains quite a bit of natural history information.]
- Salisbury, R. 1901. Glacial work in the western mountains in 1901. J. Geol. 9.
- Sergeant, C.S. 1884. Report on the forest resources of North America. 9th Census 9:564-566. [This report includes results of a botanical survey of western Montana by Sereno Watson. He collected plants in the Bighole, Beaverhead, Clark Fork and Bitterroot Valleys.]
- Sergeant, R.H. 1911. Through Glacier National Park. The Outlook, Oct. 28.
- Saunders, A.A. 1910. Bird notes from southwestern Montana. Condor 12:195-204. [Notes from the mountains of Jefferson and Silverbow Counties. Between 1909 and 1916, Saunders published 33 papers on Montana birds of which only three are listed here. Saunders (1921) contains a complete listing of these papers.]
- Saunders, A.A. 1911. A preliminary list of the birds of Gallatin County, Montana. Auk 28:26-49.
- Saunders, A.A. 1912. Some birds of southwestern Montana. Condor 14:22-32. [A local list for Jefferson, Deerlodge, Silverbow, and southern Powell Counties.]
- Saunders, A.A. 1921. A distributional list of the birds of Montana. Pacific Coast Avifauna #14. Cooper Ornithological

Club, Berkeley, CA. 194 pp. [This is a major publication on Montana birds. It summarizes published accounts of Montana birds up to 1920 and contains an extensive bibliography. Most of the publications listed by Saunders with direct reference to Montana are included in this bibliography.]

Schmeckabier, L.F. 1904. Catalogue and index of the publications of Hayden, King, Powell and Wheeler surveys: namely geological and geographical surveys of the territories; Geological exploration of the 40th parallel; Geographical and Geological Surveys of the Rocky Mountain Region; Geographical Surveys West of the 100th meridian. Govt. Print. Off., Washington, DC. [Contains many references to previous explorations and surveys conducted prior to the surveys enumerated above.]

Schmidt, C.C. 1904. List of birds that have been observed in the State of North Dakota.

Schubert, F.N., ed. 1981. Explorer on the northern plains: Lieutenant Gouverneur K. Warren's preliminary report of explorations in Nebraska and Dakota in the years 1855-'56-'57. Engineer Historical Studies, No. 2. Off. of the Chief of Engineers, Washington. DC.

Schullery, P. and L Whittlesey. 1992. The documentary record of wolves and related wildlife in the Yellowstone National Park area prior to 1882. Pages 1-4 to 1-174 in Varely, J.D. and W.G. Brewster, eds., Wolves for Yellowstone? A report to the United States Congress, Volume IV research and analysis. National Park Service, Yellowstone National Park, Wyo. [This report is a definitive account of wildlife and habitat conditions in the Park prior to 1882. It contains detailed summaries of all visitors to the Park area during this time period who left a written record. The bibliography of this publication contains over 220 citations (only the major journals and reports dealing with Yellowstone Park are cited in our report). It is highly recommended that anyone desiring information about the early history of the Yellowstone Park area obtain a copy of Schullery & Whittlesey.]

Schultz, J.W. 1901. Winter hunting of goat and sheep in the Rockies. Outing, Jan.

Seton, E.T. 1898. Mammals of the Yellowstone National Park. Recreation 8:365-371.

Seymour, A.B. 1889. (Title unknown - paper deals with parasitic fungi collected in Montana in 1884.) Proc. Boston Soc. Nat. Hist. 4:182-191.

- Sheridan, Lt. Gen. D.W. 1882. Report of an exploration of parts of Wyoming, Idaho, and Montana in August and September 1882. Washington.
- Silloway, P.M. 1900. Notes on the long-billed curlew. Condor 2:79-82. [Silloway published 22 papers on Montana birds between 1900 and 1917. Some of the more important papers are listed here. Saunders (1921) has a complete listing.]
- Silloway, P.M. 1901. Summer birds of Flathead Lake. Bull. Univ. Montana, Biological Series No. 1.
- Silloway, P.M. 1903. Additional notes to summer birds of Flathead Lake. Bull. Univ. Montana, Biological Series No. 6.
- Silloway, P.M. 1903. Birds of Fergus County, Montana. Fergus County Free High School, Lewistown. 77 pp.
- Silloway, P.M. 1909. A problem in indeterminates. Condor 11:86-90. [Nesting of the long-billed curlew, short-eared owl, sharp-tailed grouse, and lark bunting near Lewistown.]
- Silloway, P.M. 1917. Some interesting birds of Judith Basin, Montana. Oologist 34:156-170.
- Skinner, M.P. 1925. Birds of Yellowstone National Park.
- Skinner, M.P. 1925. Bears of Yellowstone National Park.
- Skinner, M.P. 1927. Predatory and fur-bearing animals of the Yellowstone Park, Roosevelt Wildlife Bull. 4, no. 2.
- Smith, K. 1900. For a National Glacier Park. Technical World Magazine, August.
- Smith, K. 1914. Glacier National Park. The Outlook, Oct. 28.
- Soper, J.D. 1941. History, range, and home life of the northern bison. Ecological monographs, XI October.
- Sperry, L. 1898. Avalanche Basin, Montana Rockies. Appalachia, Jan.
- Sprague, I. Unpublished journal entry for July 28, 1843. Library of the Boston Athenaeum.
- Spry, I.M. 1963. The Palliser Expedition: An account of John Palliser's British North American Expedition 1857-1860. The MacMillan Co., Toronto.
- Spry, I.M., ed. 1968. The papers of the Palliser Expedition,

- 1857-1860. The Champlain Soc., Toronto. 694 pp.
- Standley, P.C. 1921. Flora of Glacier National Park.
- Stanley, G.F., ed. 1970. Mapping the frontier: Charles Wilson's diary of the survey of the 49th parallel 1858-1862, while secretary of the British Boundary Commission. Univ. of Washington Press, Seattle.
- Stegner, W. 1980. Wolf Willow: A history, a story, and a memory of the last plains frontier. Bison Books, Univ. of Nebraska Press, Lincoln.
- Stenzel, F. 1975. James M. Alden: Yankee artist of the Pacific Coast, 1854-1860. Amon Carter Museum, Fort Worth, TX.
- Stevens, I.I. 1853-54. Exploration and survey of the Riviere des Lac to the Rocky Mountains. in: Pacific Railroad Survey, vol 11. H.R. Ex. Doc. 91, 33d. Congr., 2d Sess.
- Stevens, I.I. 1860. Narrative and final report of explorations for a route for a Pacific railroad. Washington.
- Stone, W. 1916. Philadelphia to the coast in early days and the development of western ornithology prior to 1850. Condor 18:3-14. [Reviews work of Peale, Say, Gamble, Heerman, Townsend, Nuttall, and Bell.]
- Strahorn, R.E. 1877. The handbook of Wyoming and guide to the Black Hills and Bighorn region. Cheyenne, WY.
- Strahorn, R.E. 1881. Montana and Yellowstone National Park. Ramsey, Millett & Hudson, Kansas City. 191 pp.
- Strong, W.E. 1876. A trip to the Yellowstone National Park: Journal of W.E. Strong. Washington, DC. 143 pp.
- Stuart, G. 1865. Montana as it is.
- Stuart, G. 1963. Diary and sketchbook of a journey to "America" in 1866, and return trip up the Missouri River to Fort Benton, Montana. Dawson's Book Shop, Los Angles, CA. 55 pp.
- Stuart, G. 1977. Pioneering in Montana: The making of a state, 1864-1887. Bison Books, Univ. of Nebraska Press, Lincoln.
- Stuart, J. 1902. Adventures on the upper Missouri. Contributions to the Historical Soc. Montana. vol 1, 2nd ed. Independent Publishing Company, Helena, MT. 80-89. [Some natural history notes and second hand accounts]
- Stuart, J. 1902. The Yellowstone expedition of 1863.

Contributions to the Historical Soc. Montana. vol 1, 2nd ed.
Independent Publishing Company, Helena, MT. 162-179.

- Suckley, G. 1853. George Suckley to Rutzen Suckley, Fort Vancouver, December 9, 1853. Suckley Papers. [Details trip from the Bitterroot River to the mouth of the Columbia and collections made.]
- Suckley, G. 1860. Report on the fishes collected on the Pacific Railroad Survey. Pacific Railroad Rep., 12(Pt. III), No. 5:307-368.
- Sullivan, M.S. 1934. The travels of Jedediah Smith. Santa Anna, CA.
- Sunder, J.E. 1965. The fur trade on the upper Missouri, 1840-1865. Univ. Oklahoma Press, Norman.
- Taylor, J.H. Frontier and Indian lives and kaleidoscopic lives. Washburn, N.D. 1936 reprint. [Contains information on tree harvest on the Missouri River.]
- Tilden, J.E. 1896. American algae.
- Topping. 1883. The Chronicles of the Yellowstone. Pioneer Press Co. St. Paul, MN.
- Thomas, D. and K. Ronnefeldt, eds. 1982. People of the first man: life among the plains Indians in their final days of glory; the first hand account of Prince Maximillian's expedition up the Missouri River, 1833-34. Promontory Press, New York. 256 pp. [Excellent account of the Missouri River in the 1830's complete with sketches by Bodmer. Good natural history notes.]
- Thompson, D. 1916. David Thompson's narrative of his explorations in Western America, 1784-1812. Champlain Society. 582 pp.
- Thompson, D. 1925. Narrative of the expedition to the Kootenai and Flat Bow Indian countries on the sources of the Columbia River. Oregon Historical Quarterly 26:23-49
- Thompson, L.S. 1985. Montana's Explorers: The pioneer naturalists. The Montana Magazine, Helena. [Excellent summary of the major explorers in Montana from 1805 to 1864.]
- Thomson, F. 1962. Last buffalo of the Black Hills.
- Thorne, P.M. 1895. List of birds observed in the vicinity of Fort Keogh, Montana, from July 1888 to September, 1892. Auk

12:211-219. [An important local list.]

- Thwaites, R.G., ed. 1904. Original journals of the Lewis and Clark expedition, 1804-1806. Dodd, Mead & Co., New York.
- Thwaites, R.G., ed. 1904-07. Early western travels, 1748-1846. The Arthur H. Clark Company, Cleveland, OH.
- Thwaites, R.G., ed. 1966a. Part II of Maximilian, Prince of Wied's travels in the interior of North America, 1832-1834. in Early Western Travels 1748-1846, Vol 23. AMS Press, Inc. New York.
- Thwaites, R.G., ed. 1966b. DeSmet's Oregon missions and travels over the Rocky Mountains 1845-1846. in Early Western Travels 1748-1846, Vol 23. AMS Press, Inc., New York.
- Townsend, J.K. 1839. Narrative of a journey across the Rocky Mountains to the Columbia River and a visit to the Sandwich Islands, Chili & etc. with a Scientific Appendix. Henry Perkins, Philadelphia, PA. 259 pp.
- Traphagen, F.W. 1899. Notes on alkali soil in Montana.
- Trenton, P. and P.H. Hassrick. 1983. The Rocky Mountains: A vision for artists in the Nineteenth Century. Univ. of Oklahoma Press, Norman.
- Triplett, F. 1883. Conquering the wilderness. St. Louis, MO.
- Trudeau, . Trudeaus' Journal. South Dakota Historical Collections, VII 403-474.
- Tweedy, F. 1886. Flora of Yellowstone National Park. Washington, DC.
- Twinning, W.J. 1877. Survey of the northern boundary of the United States from the Lake of the Woods to the summit of the Rocky Mountains. Senate Ex. Doc. 41, 44th Congress, 2nd session.
- Tyrell, J.B., ed. 1916. David Thompson, narrative of his exploration in northwestern America, 1784-1812. The Champlain Soc., Toronto.
- U.S.D.A. Forest Service. 1993. Elkhorn landscape analysis. Helena National. Helena National Forest, Helena, MT.
- U.S. Bureau of Biological Survey, U.S.D.A. 1911. The mammals of the Bitterroot Valley, Montana, in their relation to spotted fever. Circ. No. 82:10. U.S. Gov't. Print. Off.

- U.S.D.I. Bureau of Land Management. 1979. Historical comparison photography - Missouri Breaks, Montana. U.S. Dept. of Interior, Montana State Off., Billings, MT. 109 pp.
- U.S.D.I. Bureau of Land Management. 1980. Historical comparison photography - mountain foothills Dillon Resource Area, Montana. U.S. Dept. of Interior, Montana State Off., Billings, MT. 120 pp.
- U.S.D.I. 1881. Fourth annual report of the superintendent of the Yellowstone National Park to the Secretary of the Interior for the year 1880. Govt. Print. Off., Washington, DC. 64 pp.
- U.S.D.I. 1882. Fifth annual report of the superintendent of the Yellowstone National Park. Govt. Print. Off., Washington, DC. 64 pp.
- U.S.D.I. 1892. Report of the superintendent of the Yellowstone National Park to the Secretary of the Interior. Govt. Print. Off., Washington, DC. 18 pp.
- U.S. Exploring Expedition. 1838-1842. U.S. exploring expedition (Wilkes expedition) Botany. Cramer. 1971
- U.S.G.S. 1973. Ferdinand Vandiveer Hayden and the founding of the Yellowstone National Park. 2nd ed. Washington, DC. 45 pp.
- U.S. War Dept. 1855-1860. Reports of explorations and surveys to ascertain the most practicable and economical route for a railroad from the Mississippi River to the Pacific Ocean. 12 vols. U.S. Govt. Print. Off., Washington, DC.
- Vaughan, J.C. 1957. Colonel Alfred Jefferson Vaughan - the frontier ambassador. Montana Historical Library, Helena, MT. 461 pp.
- Vaughan, R. 1900. Then and now: or 36 years in the Rockies. Tribune Publ. Co., Minneapolis, MN. 461 pp.
- Vinton, S. 1926. John Colter, discoverer of Yellowstone Park. New York.
- Victor, F.F. 1871. The river of the west. Columbian Book Company, Hartford, CT.
- Visher, S.S. 1911. Annotated list of birds of Harding County, northwestern South Dakota. Auk 28:5-16. [Contains some observations of birds in the Long Pines of Carter County, Montana.]

- Visher, S.S. 1914. The biology of Harding County, Northwestern South Dakota. S.D. Geographic Survey, 6:126.
- Wagner, H. R. and C. Camp. 1953. The plains and the Rockies: A bibliography of original narratives of travel and adventure, 1800-1865. Charles C. Camp, San Francisco, CA. 601 pp.
[This is an authoritative summary of published material on western exploration.]
- Walcheck, K.C. 1969. Birds observed by Lewis and Clark in Montana, 1805-1806. Proc. of the Montana Acad. of Sci. 29:13-29.
- Walcheck, K.C. 1976. Montana wildlife 170 years ago. Montana Outdoors 7(July-Aug.):15-30.
- Walcheck, K.C. 1980. Audubon bighorn sheep. Montana Outdoors 11 (Jan-Feb.):17-21
- Walcheck, K.C. 1982. With pen and plant in hand. Montana Outdoors 13 (July-Aug.):30-37.
- Warren, G.K. 1856. Explorations in the Dakota Country, in the year 1855. Senate Ex Doc. 76, 34th Congr. 1st Sess.
- Warren, G.K. 1858. Preliminary report of explorations in Nebraska and Dakota in the years 1855-'56-'57. U.S. Govt. Print. Off., Washington, DC.
- Watson, C.M. 1909. The life of Major-General Sir Charles William Wilson. Publisher unidentified, London.
- Watts, R.C. and L.C. Eichhorn. 1981. Changes in the birds of central Montana. Proc. Montana. Acad. Sci. 40:31-37.
- Wedel, W.R. 1975. Some early Euro-American percepts of the great plains and their influence on anthropological thinking. in: B.W. Blouet and M.P. Lawson eds. Images of the plains: the role of human nature in settlement. Univ. of Nebraska Press, Lincoln. 13-20.
- Wheeler, G.M. 1889. Report upon United States Geographical Surveys West of the one hundreth meridian. U.S. Govt. Print. Off., Washington, DC.
- Wheeler, G.M., 1889. Memoirs upon the voyages, discoveries, explorations and surveys to and at the west coast of North America and interior of the United States west of the Mississippi River between 1500 and 1880. Washington, DC. in: U.S. Geogr. Surv. West of 100th Meridian VI appx. F. p481-745. [Chronological list, old maps, epitome of Warren's memoir, and geological and geographical

explorations 1857-1880.]

Wheeler, O.D. 1896. Elk, member in Yellowstone Park.
Recreation 5:221-226.

Whishart, D.J. 1979. The fur trade of the American West, 1807-1840: A Geographical Synthesis. Univ. of Nebraska Press, Lincoln.

White, C.A. 1895. Memoir of Ferdinand Vandiveer Hayden, 1839-1887. National Academy of Science Biographical Memoirs 3:395-413.

White, M.C., ed. 1950. David Thompson's journals relating to Montana and adjacent regions, 1808-1812. Montana State Univ. Press, Missoula. 345 pp.

Whitford, H.F. 1905. The forest of Flathead Valley, Montana. Bot. Gaz. 39:99-122, 194-218, 276-296.

Whitney, C., G.B. Grinnell, and O. Wister. 1904. Musk-ox, bison, sheep, and goat. New York.

Willis, B. 1902. Along the northwest boundary. The World's Work, July.

Willy, J. 1915. A week in Glacier National Park. The Hotel Monthly, Aug.

Williams, R.S. 1882. Notes on some birds of the Belt Mountains, Montana Territory. Bull. Nutt. Orn. Club. 7:61-63.

Williams, R.S. 1882. Description of a nest of the water ouzel. Bull. Nutt. Orn. Club 7:118

Williams, R.S. 1882. The white-throated swift breeding on Belt River, Montana. Bull. Nutt. Orn. Club 7:122-123.

Williams, R.S. 1883. The Calliope hummingbird and pygmy owl in Montana. Bull. Nutt. Orn. Club 8:59.

Williams, R.S. 1886. A flock of *Chen rossii* east of the Rocky Mountains. Auk 3:274.

Williams, R.S. 1888. The upper Missouri River birds. Auk 5:14-18. [An account of birds observed at Great Falls.]

Williams, R.S. 1890. *Myadestes townsendii* wintering in Montana. Auk 7:98

Williams, R.S. 1890. The breeding ranges and songs of three thrushes in Montana. Auk 7:292-293.

